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Catalog of Recent Type Specimens in the Department of Invertebrates, American Museum of Natural History. II. Mollusca Part 1 (Classes Aplacophora, Polyplacophora, Gastropoda [Subclass Opisthobranchia], Bivalvia, and Scaphopoda)

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ABSTRACT

A complete, annotated listing of all type specimens of four classes and one subclass of mollusks in the collection of the Department of Invertebrates at the American Museum of Natural History (as of December 1995) is given. A total of 271 type lots from the five groups is listed. Eighteen lectotypes are designated herein, and illustrations are provided for one lectotype and 11 other important type specimens, including several holotypes thought to have been lost. An index of genera and species is included for each group.

INTRODUCTION

The Department of Invertebrates at the American Museum of Natural History currently houses a collection of over 350,000 cataloged lots divided among three major categories: fossil (45,000 lots), Recent mollusks (275,000 lots), and other Recent phyla

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(30,000 lots). All of the types are housed separately from the main body of the collection. This allows for a greater level of security than can be maintained in a large, general collection area as per ICZN Recommendation 72 (ICZN, 1985: 147).

This catalog is the second in a series of comprehensive listings of all the type material in the department's collection. It is also an updating and expansion of the work of Richards and Old (1969, in part), which contains many inaccuracies and omissions. Included here are all AMNH holotype, lectotype, paratype, paralectotype, and syntype specimens from four classes and one subclass of mollusks: Aplacophora (12 species), Polyplacophora (8 species), Opisthobranchia (22 species), Bivalvia (122 species), and Scaphopoda (36 species). A total of 54 holotype, 19 lectotype, 135 paratype, 45 paralectotype, and 18 syntype AMNH lots is listed in this publication.

This catalog includes an accounting of the type specimens that have been transferred to this institution from other sources. Very often no published record of these transfers is ever made, especially for species coming from private collections, such as those listed below. In the case of several lots, types were published as having been given to the American Museum, but subsequent investigation indicated that the specimens were never deposited. Other members of type series with representatives in AMNH have also been subject to transfer between institutions. The most recent known repositories have been listed, along with the most recent catalog numbers used to identify type lots in other institutions.

The majority of the type specimens included in this catalog come from a few key sources. The two most important pre-1900 collections are those of John C. Jay and William A. Haines. The Jay Collection, purchased for $10,000 in 1874, was donated to the AMNH and contains type specimens of species described by both Jay and others, such as Isaac Lea, with whom Jay traded specimens. Part of the Haines Collection was donated by Haines himself, the remainder being purchased from his son in 1895. Haines described very few species, but received many type specimens from Isaac Lea and others. For more information on these and other large collections that have been incorporated into the AMNH mollusk collection, see Richards and Old (1969).

More recent sources of type material included in this catalog are the AMNH Belgian Congo Expedition of 1909–1915, with many new species collected by Herbert Lang and James Chapin and described by Pilsbry and Bequaert (1927), the "Vema" Expedition (1955–1962), with new species described by Luitfried von Salvini-Plawen, Victor Scarabino, and Ernst and Eveline Marcus, and the Gordon Nowell–Usticke Collection, which has been discussed in detail by M. J. Faber (1988).

The AMNH collection has been organized by phylum and "superphylum" (Protozoa). Each division is given a separate series of catalog numbers. As a result of this system of numbering, a chiton may have the same catalog number as a trematode, but the specimens cannot be confused because of the taxonomic distinction between phyla.

Each potential type lot was compared to the original description and figures in order to verify type status, confirm locality and collection data and remove any specimens from the type collection that are not valid types. The publication of this catalog fulfills ICZN Recommendation 72G(4), which states that all museums holding type specimens have the responsibility of making a published catalog of these types available to the scientific community (ICZN, 1985: 147).

This catalog is arranged by class, based primarily on Vaught, 1989. Within each class, the types are listed in alphabetical order by genus and species. An index is provided, which gives a genus- and species-level list within each phylum. This catalog adds to the format of Boyko (1994) by including detailed information on current synonymy and generic placement of all species listed.

One critical area addressed in this catalog is the ambiguous type designations and other type concept problems introduced by Salvini-Plawen, E. Marcus, and Usticke. Although there has been some indication that the species introduced by Salvini-Plawen (1986) should, at least in part, be validated from that date (Bayer, personal commun.), we and others (A. Scheltema, personal commun.; Petit,

personal commun.) believe all species from the 1986 abstract are nomena nuda because there is no way to distinguish them based on the limited or absent characters given. Salvini-Plawen (1992) described all the 1986 species in detail and the names should date from the 1992 paper. Salvini-Plawen (1992) also stated that "all types are deposited in the American Museum." This statement refers to all the holotypes from the 1992 paper, because not all the specimens in each type series were deposited at the AMNH.

Similarly, E. Marcus (1958b) stated that "the types and some of the other material in this article are deposited in the invertebrate section of the American Museum of Natural History." This statement should be read "the [holo]types and some of the other material [including some paratypes]. . ." as, again, not all the specimens in each type series were deposited at the AMNH.

Usticke (1959) unambiguously designated the "pictured" specimen for each new species or subspecies as holotype. However, in his 1969 paper, Usticke did not include any holotype designations and, therefore, all figured specimens from the 1969 paper are syntypes. Usticke (1971) published measurements of all holotypes which, in most cases, correspond to the figured specimens. We refer to this author as "Usticke" rather than "Nowell-Usticke" because the former appellation is how he referred to himself in his own papers.

In the case of 67 species treated herein, no holotype was designated in the original publication. For 19 of these species, one specimen in the AMNH collection is clearly either the figured specimen in the original publication or was labeled by the author of the species as being the holotype. Such specimens not subsequently published as holotype or lectotype, are herein designated lectotype (any postpublication reference to a holotype where none was originally designated is considered the equivalent of a lectotype designation). One of these specimens is figured along with 11 holotypes and syntypes that either were never illustrated (e.g., *Batissa gigantea*) or were cited as lost in other publications (e.g., *Unio callosus*). In addition, one U.S. National Museum specimen is designated lectotype for one species of bivalve (*Iridina coelestis*).

A list is also provided of 45 species that should be represented by type (or possible type) specimens at the AMNH, but for whom types cannot be traced in the collection or the records. Most of the bivalve specimens were either stated or implied to be in collections later transferred to the AMNH, primarily those of Jay and Haines. Since there is no record of these specimens having arrived here, and they have not been located at other major institutions, it is suspected that they are lost. One species on this list (*Chlamys incantata*) was explicitly cited as having been deposited at the AMNH but never arrived. It is of interest to note that only one bivalve holotype from all species described in Pilsbry and Bequaert (1927) is not located in either AMNH, ANSP, or MCZ. This is *Aspatharia chapini,* which has been traced to the Museum of Central Africa at Tervuren, Belgium.

The list of missing opisthobranchs is based on a letter found in the department files from Eveline and Ernst Marcus, (dated 1962, to Libbie Hyman at the AMNH) which includes a list of 38 lots of opisthobranchs sent to AMNH for deposition. While it is possible that these specimens were not types, the Marcuses stated that "if the labels are compared with the mentioned publication, one can see whether there are types or not," which would indicate that at least some of these specimens were types. Unfortunately, only seven lots from this list can be found at the AMNH; they are listed in the main opisthobranch section. The remaining lots are presumed lost or destroyed and, since the list refers specific questions on lot size, locality, and collection dates to the individual specimen labels, this information is lost as well.

Each type listing contains four to six categories of data. Within each genus, specific names are followed by authorship data (author, year description was published, and page and figure numbers). The next category indicates the specific kind of type(s) in the collection, as well as AMNH catalog number(s), and the number of specimens in each lot. The locality category contains all pertinent collection data, including county names for U.S. locations where that information can be determined. The collector category indicates the collector(s) of the specimen(s) and the date(s) they were collected, if those data are known.

The remarks category contains information as to provenance of specimens, location of other types in the series (all of the members of each type series are listed as could be located), current synonymy and/or generic placement, etc. The host category is included for species that are parasites or commensals of other species.

Institutional Abbreviations

AMNH	American Museum of Natural History, New York
ANSP	Academy of Natural Sciences of Philadelphia, Pennsylvania
BM(NH)	British Museum (Natural History) (now The Natural History Museum), London
CASIZ	California Academy of Sciences, Invertebrate Zoology, Berkeley
DMNH	Delaware Museum of Natural History, Wilmington
FMNH	Field Museum of Natural History, Chicago
LACM	Los Angeles County Museum of Natural History, California
MCZ	Museum of Comparative Zoology, Harvard University, Cambridge, Massachusetts
MNHN-P	Musèum National d'Histoire Naturelle, Paris, France
MNHN-M	Museo Nacional de Historia Natural, Montevideo, Uruguay
MRAC	Musee Royal de L'Afrique Centrale, Tervuren, Belgium
NHMV	National History Museum, Vienna, Austria
NSMT	National Science Museum, Tokyo
NYZS	New York Zoological Society
SBMNH	Santa Barbara Museum of Natural History, California
SDNHM	San Diego Natural History Museum, California
UMML	University of Miami Marine Laboratory, Florida
UMMZ	University of Michigan Museum of Zoology, Ann Arbor
URI	University of Rhode Island, Department of Zoology, Kingston
USNM	United States National Museum (now National Museum of Natural History–NMNH), Washington, D.C.
WHOI	Woods Hole Oceanographic Institute, Massachusetts

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CLASS APLACOPHORA

Falcidens (*Lepoderma*) *acutargatus* Salvini-Plawen, 1992: 322, figs. 8, 18, 23c.
Holotype: AMNH **265333**.
Paratypes: AMNH **265346** (3 specimens).
Locality: V-15-22, 09°46.3'N, 79°37.5'W, 974 m, Gulf of Darien, Panama, Atlantic Ocean.
Collector: R/V "Vema," Nov. 10, 1958.

Falcidens limifossorides Salvini-Plawen, 1992: 321, figs. 6, 16, 23a.
Holotype: AMNH **265330**.
Paratypes: AMNH **265335** (1 specimen), **265337** (2 specimens), **265338** (1 specimen), **265339** (3 specimens), **265340** (1 specimen).

Locality: V-17-5, 38°15′S, 76°00′W, 3739–3824 m (AMNH 265330), V-17-6, 37°57′S, 75°08′W, 4303–4323 m (AMNH 265340), off Chile; V-15-38, 05°00′N, 79°04′W, 3023–3251 m (AMNH 265335), V-15-40, 04°25′N, 78°25′W, 3700–3757 m (AMNH 265337), off Colombia; V-15-42, 07°55′N, 86°00′W, 3087–3091 m (AMNH 265338), V-15-59, 07°05′N, 85°55′W, 2853–2855 m (AMNH 265339), off Costa Rica, Pacific Ocean.

Collector: R/V "Vema," Nov. 15 (AMNH 265335), Nov. 16 (AMNH 265337), Nov. 19 (AMNH 265338), Nov. 30 (AMNH 265339), 1958; March 16 (AMNH 265330), March 21 (AMNH 265340), 1961.

Remarks: Additional paratypes will be deposited in NHMV (Salvini-Plawen, personal commun.). This specific name is a nomen nudum from Salvini-Plawen, 1986: 76 (Petit, personal commun.; A. Scheltema, personal commun.).

Falcidens (*Lepoderma*) *nontargatus* Salvini-Plawen, 1992: 322, figs. 19, 23d.

Holotype: AMNH **265334**.

Locality: V-14-32, 34°35′S, 17°31′E, 1861 m, off western cape of Africa, Atlantic Ocean.

Collector: R/V "Vema," April 6, 1958.

Remarks: AMNH 265334 is the holotype by monotypy.

Falcidens procerus Salvini-Plawen, 1992: 321–322, figs. 9, 22, 23e.

Holotype: AMNH **265331**.

Paratypes: AMNH **265344** (3 specimens), **265345** (5 specimens).

Locality: V-17-2, 34°29′S, 74°21′W, 4030–4036 m, off Chile, (AMNH 265331, 265344); V-15-74, 07°32′S, 81°26′W, 5759–5760 m, off Peru (AMNH 265345), Pacific Ocean.

Collector: R/V "Vema," Dec. 19, 1958 (AMNH 265345), March 13, 1961 (AMNH 265331, 265344).

Remarks: Additional paratypes will be deposited in NHMV (Salvini-Plawen, personal commun.). This specific name is a nomen nudum from Salvini-Plawen, 1986: 76 (Petit, personal commun.; A. Scheltema, personal commun.).

Falcidens (*Lepoderma*) *targatus* Salvini-Plawen, 1992: 322, figs. 7, 17, 23b.

Holotype: AMNH **265332**.

Paratypes: AMNH **265336** (23 specimens).

Locality: V-17-102, 34°25′S, 52°19′W, 73 m, off Uruguay, Atlantic Ocean.

Collector: R/V "Vema," June 27, 1961.

Remarks: Additional paratypes will be deposited in NHMV (Salvini-Plawen, personal commun.). This species is the type of the subgenus *Lepoderma* Salvini-Plawen, 1992, by original designation (Salvini-Plawen, 1992: 322). This specific name is a nomen nudum from Salvini-Plawen, 1986: 76 (Petit, personal commun.; A. Scheltema, personal commun.).

Limifossor elongatus Salvini-Plawen, 1972: 47–49, figs. 28–31.

Lectotype: AMNH **265351**.

Paralectotypes: AMNH **265355** (1 specimen), **265356** (3 specimens).

Locality: V-15-46, 09°22′N, 89°33′W, 3517–3528 m (AMNH 265351), off Costa Rica; V-15-41, 07°02′N, 83°10′W, 2269–2270 m (AMNH 265355), off Panama; V-15-63, 03°15′S, 82°30′W, 2861–2864 m (AMNH 265356), off Ecuador, Pacific Ocean.

Collector: R/V "Vema," Nov. 18 (AMNH 265355), Nov. 20 (AMNH 265351), Dec. 4 (AMNH 265356), 1958.

Remarks: AMNH 265351 was labeled "type" by Salvini-Plawen. Since Salvini-Plawen did not designate a holotype, AMNH 265351 is here designated lectotype. Additional paralectotypes will be deposited in NHMV (Salvini-Plawen, personal commun.). This species is the type of the genus *Psilodens* Salvini-Plawen, 1977, by original designation (Salvini-Plawen, 1977: 415).

Limifossor hexadentatus Salvini-Plawen; 1992: 321, figs. 5, 13.

Holotype: AMNH **265327**.

Paratypes: AMNH **265343** (3 specimens).

Locality: V-18-09, 36°17′S, 53°21′W, 547–676 m, Rio de la Plata, Uruguay, Atlantic Ocean.

Collector: R/V "Vema," Feb. 4, 1962.

Remarks: The additional paratype will be deposited in NHMV (Salvini-Plawen, personal commun.). This specific name is a nomen nudum from Salvini-Plawen, 1986: 76 (Petit, personal commun.; A. Scheltema, personal commun.).

Limifossor holopeltatus Salvini-Plawen, 1992: 321, figs. 4, 15.
Holotype: AMNH **265326**.
Paratypes: AMNH **265341** (3 specimens).
Locality: V-17-20, 53°21′S, 70°36′W, 247 m, Strait of Magellan, Chile, Pacific Ocean.
Collector: R/V "Vema," March 29, 1961.
Remarks: Additional paratypes will be deposited in NHMV (Salvini-Plawen, personal commun.). This specific name is a nomen nudum from Salvini-Plawen, 1986: 76 (Petit, personal commun.; A. Scheltema, personal commun.).

Limifossor profundus Salvini-Plawen, 1992: 318, figs. 3, 14.
Holotype: AMNH **265325**.
Paratype: AMNH **265342** (1 specimen).
Locality: V-15-36, 07°30′N, 79°21′W, 1609–1746 m (AMNH 265325); V-15-35, 07°30′N, 79°16′W, 2234 m (AMNH 265342), off Panama, Pacific Ocean.
Collector: R/V "Vema," Nov. 14, 1958.
Remarks: Additional paratypes will be deposited in NHMV (Salvini-Plawen, personal commun.). This specific name is a nomen nudum from Salvini-Plawen, 1986: 76 (Petit, personal commun.; A. Scheltema, personal commun.).

Prochaetoderma (*Lonchoderma*) *longisquamosum* Salvini-Plawen, 1992: 324, fig. 25.
Holotype: AMNH **265328**, **265329**.
Locality: V-16-15, 45°00′S, 45°46′E, 1622 m, between Prince Edward and Crozet Islands, Indian Ocean.
Collector: R/V "Vema," Jan. 8, 1960.
Remarks: AMNH 265328, 265329 is the holotype by monotypy. The body of the specimen is AMNH 265328 and the radula is AMNH 265329. This species is the type of the subgenus *Lonchoderma* Salvini-Plawen, 1992, by monotypy (Salvini-Plawen, 1992: 324). The specific name is a nomen nudum from Salvini-Plawen, 1986: 76 (Petit, personal commun.; A. Scheltema, personal commun.).

Scutopus chilensis Salvini-Plawen, 1972: 45, figs. 23, 25a, 26, 27.
Lectotype: AMNH **265349**.
Paralectotype: AMNH **265350** (1 specimen [part]).
Locality: V-17-27, 53°33.8′S, 70°17.5′W, 263 m, Strait of Magellan, Chile, Pacific Ocean.
Collector: R/V "Vema," March 29, 1961.
Remarks: AMNH 265349 was labeled "type" by Salvini-Plawen. Since Salvini-Plawen did not designate a holotype, AMNH 265349 is here designated lectotype. The paralectotype [part] is a radula slide. Additional paralectotypes as well as the body of AMNH 265350 will be deposited in NHMV (Salvini-Plawen, personal commun.).

Scutopus megaradulatus Salvini-Plawen, 1972: 44, figs. 21, 22, 24, 25b.
Lectotype: AMNH **265347**.
Locality: V-15-22, 09°46.3′N, 79°37.5′W, 974 m, Gulf of Darien, Panama, Atlantic Ocean.
Collector: R/V "Vema," Nov. 10, 1958.
Remarks: AMNH 265347 was labeled "type" by Salvini-Plawen. Since Salvini-Plawen did not designate a holotype, AMNH 265347 is here designated lectotype. The paralectotype will be deposited in NHMV (Salvini-Plawen, personal commun.).

CLASS POLYPLACOPHORA

Callistochiton leei Ferreira, 1979: 451–452, figs. 7–12.
Paratype: AMNH **183817** (1 specimen).
Locality: Low tide, less than 1 m depth, about the midpoint on the east side of the island, 29°01′N, 118°13′W, Sealer's Camp, Guadalupe Island, Mexico, Pacific Ocean.
Collector: W. L. Lee and A. J. Ferreira, Jan. 2, 1975.
Remarks: ex Ferreira. The holotype is CASIZ 020232 and additional paratypes are CASIZ 020305, 064068, LACM 1905, USNM 749083, and ANSP 346418 (Ferreira, 1979: 452).

Chaetopleura staphylophera Lyons, 1985: 35–38, figs. 1–14, 28.
Paratype: AMNH **213570** (1 specimen).
Locality: Trawled in 53 m, 30 nautical miles ENE of Melbourne, Florida, 28°10′N, 80°03′W, United States, Atlantic Ocean.
Collector: J. Johnson, Sept. 1981.
Remarks: ex Lyons (Johnson Collection). The holotype is USNM 842109 and additional paratypes are in several institutions (Lyons, 1985: 35–37) as well as ANSP (Lyons, personal common.).

Chiton viridis var. *rubrocarinata* Usticke, 1969: 7, fig. 1860.

Lectotype: AMNH **198488** (1 specimen).
Paralectotypes: AMNH **270409** (2 specimens).
Locality: La Grange Beach, St. Croix, Virgin Islands, Atlantic Ocean.
Collector: Unknown.
Remarks: ex Usticke Collection 1860 (AMNH 198488) and L. and L. Schwartz (Usticke Collection) (AMNH 270409). AMNH 198488 was the figured specimen (Usticke, 1969) and is here designated lectotype. This subspecific name is a nomen nudum from Usticke, 1959: 90 as "Var. *Chiton viridis rubrocarinatus.*" Although the term "var." was employed, all other "varieties" described by Usticke (1969) were called "new s[ub] sp[ecies]" or, in error, "new sp[ecies]." This taxon, described with an infrasubspecific term after 1960, should nevertheless be considered subspecific because it was not published expressly as a "variety" in the traditional sense of the word. This taxon was erroneously cited as "*Chiton rubrocarinata*" in the figure caption. This subspecies is a synonym of *C. viridis* Spengler, 1797 (Usticke, 1971: 31; Faber; 1988: 89).

Ischnochiton dubium Usticke, 1969: 7, fig. 1869.
Lectotype: AMNH **198489** (1 specimen).
Locality: Pointe des flêches, St. Croix, Virgin Islands, Atlantic Ocean.
Collector: Unknown.
Remarks: ex Usticke collection 1869. AMNH 198489 was the figured specimen (Usticke, 1969) and is here designated lectotype. This species is a synonym of *Stenoplax* (*S.*) *boogii* (Haddon, 1886) (Kaas and Van Belle, 1987: 144).

Ischnochiton macleani Ferreira, 1978a: 36–39, figs. 1, 2.
Paratype: AMNH **183856** (1 specimen).
Locality: 55 m, on rock and coral, Tagus Cove, 00°16′38″S, 91°22′44″W, Albemarle Island, Galápagos Islands, Ecuador, Pacific Ocean.
Collector: AHF Station 147-34, Jan. 13, 1934.
Remarks: ex LACM-AHF. The holotype is LACM 1853 and additional paratypes are LACM 1854, CASIZ 016260, USNM 771232, ANSP A7213, and SDNHM 69305 (Ferreira, 1978a: 36).

Lepidozona allynsmithi Ferreira, 1974: 173–175, figs. 19–24.
Paratype: AMNH **181727** (3 valves).
Locality: 2–3 m, Caleta el Candelero, on the western side of Isla Espiritu Santo, 24°30′N, 110°23′W, Gulf of California, Mexico, Pacific Ocean.
Collector: A. J. Ferreira, Oct. 18, 1970.
Remarks: ex Ferreira. The holotype is CASIZ 016431 and additional paratypes are CASIZ 016432, 016433, LACM 1727, USNM 709833 and in the University of Costa Rica (Ferreira, 1974: 174–175).

Lepidozona guadalupensis Ferreira, 1978b: 37–38, figs. 13, 14, 32, 33.
Paratype: AMNH **183855** (1 specimen).
Locality: 29°01′N, 118°13′W, Sealer's Camp, Guadalupe Island, Mexico, Pacific Ocean.
Collector: A. J. Ferreira and W. L. Lee, Jan. 1–2, 1975.
Remarks: ex Ferreira. The holotype is CASIZ 016269 and additional paratypes are CASIZ 016270, 016271, LACM 1857, SDNHM 68728, USNM 770960, and ANSP A7226 (Ferreira, 1978b: 37–38).

Plaxiphora excurvata Pilsbry, 1893: 327–328.
Syntypes: AMNH **21933** (3 specimens).
Locality: "Australia?"
Collector: Unknown.
Remarks: ex Haines Collection 2710i. Additional syntypes are in the McGill University Collection, Montreal, Canada (Pilsbry, 1893: 328). Two specimens are illustrated herein (fig. 1). Pilsbry, not Carpenter *in* Pilsbry, was the author of this species. This species is provisionally considered a synonym of *Plaxiphora* (*P.*) *albida* (Blainville, 1825) (Kaas and Van Belle, 1994: 294).

CLASS GASTROPODA

SUBCLASS OPISTHOBRANCHIA

Acteon eloiseae Abbott, 1973: 91–92, figs. 1–4.
Paratypes: AMNH **245763** (4 specimens).
Locality: Shallow water near shore, Al Masirah Island, Oman, Indian Ocean.
Collector: Fishermen, 1970.
Remarks: ex Bosch. The holotype is DMNH 27213 and additional paratypes are DMNH 67746 and in the collection of D. T. Bosch (Abbott, 1973: 92). This species is placed

in *Punctacteon* Kuroda and Habe, 1961 (Bosch et al., 1995: 179).

Alderia uda Ev. Marcus and E. Marcus, 1956: 8–14, figs. 8–23.
Holotype: AMNH **3485**.
Locality: Near Santos, São Vicente, São Paulo, Brazil, Atlantic Ocean.
Collector: S. A. Gerlach, April 1954.
Remarks: ex Ev. Marcus and E. Marcus. The repository of the paratypes was not cited. This species is a synonym of *A. modesta* (Lovén, 1844) (Ev. Marcus, 1977: 7).

Antiopella mucloc E. Marcus, 1958a: 57.
Lectotype: AMNH **3508**.
Locality: Among algae, northern base of the Oceanographic Institute of the University of São Paulo, approximately 180 km ENE Santos, near Ubatuba, Brazil, Atlantic Ocean.
Collector: Unknown, Sept. 4, 1956.
Remarks: ex E. Marcus. This specific name was intended to be first made available from Marcus' (1958b) description published Aug. 13, 1958, and based on a single specimen (AMNH 3508). However, this name was first published with accompanying descriptive notes in Marcus (1958a), received by USNM Aug. 13, 1958. Since the paper received on Aug. 13, 1958, must have been published prior to that date, the name must date from Marcus (1958a). The type series consists of the intended type specimen (not the holotype by monotypy) and the two additional specimens cited by Marcus (1958a). AMNH 3508 was the intended "holotype" and is here designated lectotype. The repository of the paralectotypes is unknown. This species is placed in *Janolus* Bergh, 1884 (Gosliner, 1981: 30).

Atys caribaea var. *corpulenta* Usticke, 1959: 84–85.
Syntype: AMNH **270412** (1 specimen).
Locality: "Altona Bay and Ham Bay," St. Croix, U.S. Virgin Islands, Atlantic Ocean.
Collector: Unknown.
Remarks: ex L. and L. Schwartz (Usticke Collection). This subspecific name was considered a nomen dubium for lack of type specimens (Faber, 1988: 75), but AMNH 270412 was located in 1994 in the portion of the Usticke collection in the possession of L. and L. Schwartz. Usticke (1959: vi) stated that the figured specimen of each new taxon was the holotype. For this subspecies, however, no figure was given and thus all type specimens are syntypes. This taxon was cited as a probable synonym of *A. caribaea* (Orbigny, 1841) (Usticke MS: 259). However, the name *A. caribaea* as used by Usticke (in the sense of Pilsbry, 1895: 274, pl. 48, fig. 12a) refers to *A. riiseanus* Mörch, 1875 (Ev. Marcus, 1970: 930).

Atys lineata Usticke, 1959: 85, pl. 4, fig. 15.
Holotype: AMNH **195475**.
Paratype: AMNH **270411** (1 specimen).
Locality: Ham Bay, St. Croix, U.S. Virgin Islands, Atlantic Ocean.
Collector: Unknown.
Remarks: ex Usticke Collection (AMNH 195475) and L. and L. Schwartz (Usticke Collection) (AMNH 270411). AMNH 195475 was the figured specimen (Usticke, 1959). This species is considered a synonym of *A. caribaea* (Orbigny, 1841) by Abbott (1974: 320) but of *A. mandrewii* E. A. Smith, 1872 by Ev. Marcus (1977: 4).

Baeolidia benteva E. Marcus, 1958b: 65–68, figs. 105–111.
Holotype: AMNH **3512**.
Locality: From the bottom of a boat, northern base of Oceanographic Institute of the University of São Paulo, approximately 180 km ENE of Santos, near Ubatuba, Brazil, Atlantic Ocean.
Collector: E. Nonato and C. Froelich, July 1956.
Remarks: ex E. Marcus. The repository of the paratype was not cited. This species is placed in *Berghia* Trinchese, 1877 (Ev. Marcus, 1977: 16).

Cadlina evelinae E. Marcus, 1958b: 18–21, figs. 28–33.
Holotype: AMNH **3506** (lost).
Locality: Under stones in the upper littoral, "Ilhabela and Guarujá," near Santos, Brazil, Atlantic Ocean.
Collector: Unknown, "December 1953, July 1954, July 1956."
Remarks: ex Marcus. This specimen was to have been deposited in AMNH (E. Marcus, 1958b: 1). It was lost in the mail and Mar-

cus submitted a voucher specimen (not from the localities cited), AMNH 226497. The repository of the paratypes was not cited. This species is placed in *Tyrinna* Bergh, 1898, by Rudman (1984: 245) but is retained in *Cadlina* by Rios (1994: 211).

Capellinia conicla E. Marcus, 1958b: 41–44, figs. 72–80.
Holotype: AMNH **3509**.
Locality: Northern base of the Oceanographic Institute of the University of São Paulo, approximately 180 km ENE Santos, Ubatuba, Brazil, Atlantic Ocean.
Collector: Unknown, Oct. 1956.
Remarks: ex E. Marcus. The repository of the paratypes was not cited. This species is placed in *Eubranchus* Forbes, 1838, as *E. coniclus* (Ev. Marcus, 1977: 14).

Catriona perca E. Marcus, 1958b: 45–48, figs. 81–87.
Holotype: AMNH **3513** (lost).
Locality: Lagoons, southern base of the Oceanographic Institute, University of São Paulo, approximately 200 km SW of Santos, Cananéia, Brazil, Atlantic Ocean.
Collector: K. Hosoe, Feb. 1953.
Remarks: ex E. Marcus. This specimen was never received at AMNH. The repository of the paratypes was not cited. This species is placed in *Cuthona* Alder and Hancock, 1855, by Gosliner (1980: 43) but is retained in *Catriona* by Rios (1994: 218).

Doto fragilis umia Ev. Marcus and E. Marcus, 1969: 27–29, figs. 38, 39.
Holotype: AMNH **146379.1**, **146379.2**.
Paratype: AMNH **226489** (1 specimen).
Locality: V-17-RD29, 60°27′N, 48°31′W, 326–366 m, SW Greenland, Atlantic Ocean.
Collector: R/V "Vema," Sept. 4, 1961.
Remarks: The body of the holotype is AMNH 146379.1 and the radula is AMNH 146379.2. This subspecies is a synonym of *D. chica* E. Marcus, 1960 (Ev. Marcus, 1977: 13).

Elysia vreelandae Ev. Marcus and E. Marcus, 1970: 194–195, figs. 36–40.
Holotype: AMNH **140586** [part].
Paratype: AMNH **140586A** (1 specimen).
Locality: On *Codium,* San Agustin, Sonora, Mexico, Pacific Ocean.
Collector: P. Vreeland, Nov. 12, 1966.
Remarks: ex Ev. Marcus. The repository of additional paratypes as well as the remainder of the holotype was not cited.

Facelina coenda E. Marcus, 1958b: 52–55, figs. 88–96.
Holotype: AMNH **3510**.
Paratype: AMNH **3511** (1 specimen).
Locality: Among algae in the upper littoral, northern base of the Oceanographic Institute of the University of São Paulo, approximately 180 km ENE Santos, Ubatuba, Brazil, Atlantic Ocean.
Collector: Unknown, Sept. 1956.
Remarks: ex E. Marcus. The repository of additional paratypes was not cited.

Hypselodoris regina Ev. Marcus and E. Marcus, 1970: 199, figs. 54–59.
Holotype: AMNH **140582.1–140582.3**.
Locality: 2 m, on *Seriatopora angulata,* Tanikely, Madagascar, Indian Ocean.
Collector: E. Kirsteuer, Dec. 7, 1959.
Remarks: ex Ev. Marcus. This specimen is the holotype by monotypy. The body of the holotype is AMNH 140582.1 and two slides of internal structures are AMNH 140582.2, 140582.3.

Noumeaella isa Ev. Marcus and E. Marcus, 1970: 212, 215, figs. 86–89.
Holotype: AMNH **140584.1–140584.3**.
Locality: 2 m, on *Seriatopora angulata,* Tanikely, Madagascar, Indian Ocean.
Collector: E. Kirsteuer, Dec. 6, 1959.
Remarks: ex Ev. Marcus. AMNH 140584.1–140584.3, mounted on three slides, is the holotype by monotypy. The AMNH number for this specimen was incorrectly given as 140854 in the original publication.

Philine thurmanni chilla Ev. Marcus and E. Marcus, 1969: 17–19, fig. 29.
Holotype: AMNH **146378**.
Paratypes: AMNH **226486** (1 specimen), **226487** (1 specimen [part]), **226488** (1 specimen [part]).
Locality: V-17-3, 36°15′S, 76°51′W, 4030–4032 m (AMNH 146378, 226486); V-17-15, 47°02′S, 75°36′W, 626–642 m (AMNH 226487, 226488), Chile, Pacific Ocean.
Collector: R/V "Vema," March 14, 1961 (AMNH 146378, 226486) and March 24, 1961 (AMNH 226487, 226488).

Remarks: The repository of additional paratypes as well as the remainder of AMNH 226487 and 226488 was not cited.

Philine thurmanni thurmanni Ev. Marcus and E. Marcus, 1969: 14–17, figs. 23–28.
Holotype: AMNH **146377**.
Paratypes: AMNH **226482** (1 specimen), **226483** (39 specimens), **226484** (1 specimen [part]), **226485** (1 specimen [part]).
Locality: V-17-97, 44°29′S, 60°59′W, 101 m (AMNH 146377, 226482); V-17-75, 41°41′S, 59°19′W, 82 m (AMNH 226483–226485), Argentina, Atlantic Ocean.
Collector: R/V "Vema," June 13 (AMNH 146377, 226482) and May 23 (AMNH 226483–226485), 1961.
Remarks: The repository of additional paratypes as well as the remainder of AMNH 226484 and 226485 was not cited.

Platydoris carolynae Mulliner and Sphon, 1974: 209–212, figs. 2–5.
Paratype: AMNH **173729** (1 specimen).
Locality: Station 27, 10 m, 00°25′S, 90°42′W, Jervis Island, Galápagos Islands, Ecuador, Pacific Ocean.
Collector: Ameripagos Expedition, March 24, 1971.
Remarks: ex Ameripagos Expedition. The holotype is CASIZ 019176 and additional paratypes are in the Charles Darwin Research Station, Galápagos Islands, LACM 1619, SDNHM 62826, 62827, USNM 735349 and DMNH 64524 (Mulliner and Sphon, 1974: 210).

Retusa sosa Ev. Marcus and E. Marcus, 1969: 6–8, fig. 7.
Holotype: AMNH **146376.1**, **146376.2**.
Locality: V-17-74, 41°27′S, 59°33′W, 71 m, Argentina, Atlantic Ocean.
Collector: R/V "Vema," May 23, 1961.
Remarks: The holotype is dissected and mounted on two slides. The repository of the paratype was not cited.

Rostanga byga E. Marcus, 1958b: 22–24, figs. 34–36.
Holotype: AMNH **3507**.
Locality: Under a stone in the tidal zone, approximately 100 km ENE of Santos, Ilhabela, Isla São Sebastião, Brazil, Atlantic Ocean.
Collector: Unknown, June 1956.
Remarks: ex E. Marcus. AMNH 3507 is the holotype by monotypy.

Smaragdinella kirsteueri Ev. Marcus and E. Marcus, 1970: 188–189, figs. 23–27.
Holotype: AMNH **140583.1–140583.3**.
Paratype: AMNH **140583A** (1 specimen).
Locality: 2 m, on *Seriatopora angulata* and *Millepora tenella,* Tanikely, Madagascar, Indian Ocean.
Collector: E. Kirsteuer, Dec. 7–8, 1959.
Remarks: ex Ev. Marcus. The body of the holotype is AMNH 140583.1 and the remainder is mounted on two slides (AMNH 140583.2, 140583.3).

Stiliger (*Stiliger*) *erbsus* Ev. Marcus and E. Marcus, 1970: 192–194, figs. 32–34.
Holotype: AMNH **140585.1**, **140585.2**.
Locality: 2.5 m, on *Acropora corymbosa,* Tanikely, Madagascar, Indian Ocean.
Collector: E. Kirsteuer, July 14, 1959.
Remarks: ex Ev. Marcus. AMNH 140585.1, 140585.2, mounted on two slides, is the holotype by monotypy.

Stiliger (*Stiliger*) *talis* Ev. Marcus and E. Marcus, 1956: 1–3, figs. 1–7.
Holotype: AMNH **3484**.
Locality: Near Santos, São Vicente, São Paulo, Brazil, Atlantic Ocean.
Collector: S. A. Gerlach, April 1954.
Remarks: ex Ev. Marcus. The repository of the paratypes was not cited.

Potential opisthobranch type specimens that should be in the AMNH Collection but were not present or cataloged as of June 1995 (see Introduction for details).

Berthella tupala E. Marcus, 1957: 416–418, figs. 58–69 (syntype(s)?).

Cadlina rumia E. Marcus, 1955: 119–121, figs. 78–89 (syntype(s)?).

Catriona tina E. Marcus, 1957: 459–461, figs. 187–198 (syntype(s)?).

Chelidonura evelinae E. Marcus, 1955: 95–100, figs. 8–19 (syntype(s)?).

Discodoris pusae E. Marcus, 1955: 147–149, figs. 151–165 (syntype(s)?).

Doris bovena E. Marcus, 1955: 131–133, figs. 109–118 (syntype(s)?).

Doto pita E. Marcus, 1955: 169–170, figs. 223–225 (syntype(s)?).

Doto uva E. Marcus, 1955: 167–168, figs. 218–222 (holotype by monotypy?).

Elysia canguzua E. Marcus, 1955: 111–112, figs. 45–48, 60–65 (syntype(s)?).

Elysia cauze E. Marcus, 1957: 405–408, figs. 35–44 (syntype(s)?).

Elysia serca E. Marcus, 1955: 113–115, figs. 49–52, 59 (syntype(s)?).

Favorinus auritulus E. Marcus, 1955: 181–183, figs. 259–269 (syntype(s)?).

Ganitus evelinae E. Marcus, 1953: 173–175, figs. 24–40 (syntype(s)?).

Glossodoris neona E. Marcus, 1955: 124–126, figs. 90–101 (syntype(s)?).

Hallaxa apefae E. Marcus, 1957: 421–422, figs. 73–80 (holotype by monotypy?).

Hancockia ryrca E. Marcus, 1957: 451–454, figs. 164–174 (holotype by monotypy?).

Janolus comis E. Marcus, 1955: 170–172, figs. 226–236 (syntype(s)?).

Okenia evelinae E. Marcus, 1957: 438–440, figs. 128–137 (syntype(s)?).

Phyllaplysia engeli E. Marcus, 1955: 105–106, figs. 29–37 (syntype(s)?).

Piseinotecus divae E. Marcus, 1955: 177–178, figs. 244–248 (syntype(s)?).

Pluscula cuica E. Marcus, 1953: 177–181, figs. 41–49 (syntype(s)?).

Polycera odhneri E. Marcus, 1955: 158–160, figs. 193–202 (syntype(s)?).

Polycerella conyna E. Marcus, 1957: 429–432, figs. 104–110 (syntype(s)?).

Siraius ilo E. Marcus, 1955: 135–137, figs. 119–125 (holotype by monotypy?).

Taringa telopia, E. Marcus, 1955: 152–155, figs. 166–179 (syntype(s)?).

Thordisa diuda E. Marcus, 1955: 140–142, figs. 133–140 (holotype by monotypy?).

Trapania maringa E. Marcus, 1957: 442–443, figs. 138–145 (syntype(s)?).

CLASS BIVALVIA

Aequipecten (*Corymbichlamys*) *iredalei* Powell, 1958: 68–69, pl. 11, figs. 1, 2, text fig. A2.
Paratypes: AMNH **105519** (5 valves).
Locality: Station 675, 29°13.5′S, 177°57′W, 58–60 m, Raoul Island, Kermadec Islands, Pacific Ocean.
Collector: R/V "Galathea," March 3, 1952.
Remarks: ex Powell. The holotype is in the Zoological Museum, Copenhagen, Denmark (Powell, 1958: 66) and additional paratypes are FMNH 118997. This species is placed in the genus *Corymbichlamys* Iredale, 1939 (Rombouts, 1991: 36).

Anodonta montezuma Lea, 1841: 31.
Holotype: AMNH **30871**.
Locality: Central America.
Collector: Unknown.
Remarks: ex Jay Collection 2057. AMNH 30871 is the holotype by monotypy and was figured by Lea (1842: 240–241, pl. 23, fig. 55). Although previously cited as lost by Johnson (1974: 92), this specimen was located at AMNH in 1994 and is fig. 2 herein. This taxon is a subspecies of *Anodontites* (*A.*) *trigonus* (Spix, 1827) (Haas, 1969: 561).

Anodonta pavonia Lea, 1838: 78–79, pl. 21, fig. 65.
Paralectotypes: AMNH **30400** (6 specimens).
Locality: "Little Beaver" [River, Lawrence Co.], Ohio, United States, North America.
Collector: J. P. Kirtland.
Remarks: ex Jay Collection 2064. Johnson (1974: 108) stated that the figured specimen (USNM 86514) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. Additional paralectotypes are USNM 86514a. This species is a synonym of *Strophitus undulatus* (Say, 1817) (Johnson, 1970: 367).

Anodonta subcylindracea Lea, 1838: 106, pl. 24, fig. 117.
Syntypes: AMNH **31131** (1 valve) (lost), **31131a** (1 specimen).
Locality: Oak Orchard Creek, Orleans Co., New York, United States, North America.
Collector: Unknown.

Remarks: ex Jay Collection 2073 (AMNH 31131) and ANSP 41045 (AMNH 31131a). The figured specimen could not be located in USNM or AMNH (Johnson, 1974: 139) and was not found at AMNH or USNM during the 1994–1995 search. AMNH 31131a (fig. 3 herein), is inscribed in Lea's hand with the species name and type locality and is close to, but does not appear to match, the figured specimen. We therefore consider AMNH 31131a a syntype. Neither specimen was cited by Johnson (1974: 139). This species is a synonym of *Anodontoides ferussacianus* (Lea, 1834) (Clarke, 1973: 92).

Anodontites irisans W. B. Marshall, 1926: 10–11, pl. 2, figs. 3, 5; pl. 3, fig. 7.
Paratypes: AMNH **35038** (2 specimens).
Locality: Venezuela, South America.
Collector: Unknown.
Remarks: These specimens were identified as paratypes by I. S. Oldroyd, who supplied Marshall with the material upon which the description was based. The holotype is USNM 359920 (Marshall, 1926: 11) and additional paratypes are BM(NH) 1926.2.3.29, 1926.2.3.30 (Johnson, 1971: 76). This species is a synonym of *A.* (*A.*) *patagonicus leotaudi* (Guppy, 1864) (Haas, 1969: 567).

Arca (*Anadara*) *mazatlanica* Hertlein and Strong, 1943: 156–157, pl. 1, figs. 1, 4.
Paratypes: AMNH **73931** (2 specimens).
Locality: Station 153-D-2, 23°6′N, 106°47′W, 19 mi west of Mazatlan, Mexico, Pacific Ocean.
Collector: Templeton Crocker Expedition, April 27, 1936.
Remarks: ex NYZS. The holotype is CASIZ 064296 and additional paratypes are CASIZ 064297 (Hertlein and Strong, 1943: 156). This species is placed in *Anadara* Gray, 1847, sensu stricto (Keen, 1971: 44).

Argina brevifrons var. *bucaruana* Sheldon and Maury *in* Maury, 1922: 200–201, pl. 2, fig. 16; pl. 3, fig. 10.
Syntypes: AMNH **27184** (3 valves).
Locality: Port of Tonosi, Bucaru, Los Santos Province, Panama, Pacific Ocean.
Collector: A. Olsson, 1918.
Remarks: ex Olsson via Maury. These specimens are labeled paratypes, but no holotype was designated in the original publication. The repository of additional syntypes was not cited. This taxon is a synonym of *Lunarca brevifrons* (Sowerby, 1833) (Keen, 1971: 50).

Asaphis nana Powell, 1958: 75, pl. 9, fig. 5, text fig. A6.
Paratype: AMNH **105514** (1 specimen).
Locality: Station 674, 29°15′S, 177°57′W, 75–85 m, Raoul Island, Kermadec Islands, Pacific Ocean.
Collector: R/V "Galathea," March 3, 1952.
Remarks: ex Powell. The holotype is in the Zoological Museum, Copenhagen, Denmark (Powell, 1958: 66) and additional paratypes are in the South Australian Museum (Willan, 1993: 90) and FMNH 119000. This species is provisionally placed in *Agnomyax* Stewart, 1930 (Willan, 1993: 90–91).

Aspatharia flava Pilsbry and Bequaert, 1927: 418–419, pl. 43, figs. 3, 3a; pl. 44, figs. 2, 2a.
Holotype: AMNH **72063**.
Paratypes: AMNH **72064**, **72190** (1 specimen each), **72191** (2 specimens).
Locality: 02°25′N, 27°30′E, Medje (AMNH 72063, 72064); 03°40′N, 29°40′E, Faradje (AMNH 72190); 03°50′N, 30°10′E, Aba (AMNH 72191), Belgian Congo [Zaire], Africa.
Collector: H. Lang and J. Chapin, 1909–1915.
Remarks: AMNH 72063 was pl. 43, figs. 3, 3a and AMNH 72064 was pl. 44, figs. 2, 2a (Pilsbry and Bequaert, 1927). Additional paratypes are MCZ 142360 (Johnson, 1956: 114) and ANSP 134205 (Johnson and Baker, 1973: 155), 132300, 132301, MRAC 57.395–57.399. This species is a synonym of *A.* (*A.*) *r. rugifera* (Dunker, 1858) (Haas, 1969: 588–589).

Basterotia pustula Usticke, 1971: 29–30, pl. 5, fig. 1618.
Syntypes: AMNH **198484** (2 valves).
Locality: St. Johns, Antigua and Barbuda, Atlantic Ocean.
Collector: G. Usticke.
Remarks: ex Usticke Collection 1618. Usticke (1971: 2) stated that figured holotypes were segregated in his collection. Since neither of the figured unpaired valves in AMNH 198484 matches the given "ho-

lotype" dimensions, both valves must be syntypes.

Batissa gigantea Prime, 1860: 112.
Holotype: AMNH **31427**.
Locality: Unknown.
Collector: United States Exploring Expedition to Japan under Commodore Perry.
Remarks: ex Jay Collection 10945+. AMNH 31427 is the holotype by monotypy. Although previously cited as missing by Johnson (1959: 453), this specimen was located at AMNH in 1994 (fig. 4 herein).

Bornia bibsae Usticke, 1969: 6, pl. 1, fig. 1616.
Lectotype: AMNH **198483** (1 valve).
Locality: South of Frederiksted, St. Croix, U.S. Virgin Islands, Atlantic Ocean.
Collector: G. Usticke.
Remarks: ex Usticke Collection 1616. AMNH 198483 was the figured specimen (Usticke, 1969) and is here designated lectotype.

Brachidontes exustus var. *rosaceus* Usticke, 1969: 5, pl. 1, fig. 1453.
Lectotype: AMNH **198479** (1 valve).
Locality: North of Frederiksted, St. Croix, U.S. Virgin Islands, Atlantic Ocean.
Collector: G. Usticke.
Remarks: ex Usticke Collection 1453. AMNH 198479 was the figured specimen (Usticke, 1969) and is here designated lectotype. Although the term "var." was employed, all "varieties" (including this one) described by Usticke (1969) were called "new s[ub] sp[ecies]" or, in error, "new sp[ecies]." This taxon, described with an infrasubspecific term after 1960, should nevertheless be considered subspecific as it was not published expressly as a "variety" in the traditional sense of the word. This taxon was erroneously cited as "*Brachidontes rosaceus*" in the figure caption. This subspecies is a synonym of *B. lavalleanus* Orbigny, 1842 (Usticke, 1971: 29) [= *B. exustus* (Linnaeus, 1758) (Rios, 1994: 236)].

Brachidontes pseudorecurvus Usticke, 1969: 5, pl. 1, fig. 1455.
Lectotype: AMNH **198480** (1 valve).
Locality: St. Thomas, U.S. Virgin Islands, Atlantic Ocean.
Collector: G. Usticke.
Remarks: ex Usticke Collection 1455. AMNH 198480 was the figured specimen (Usticke, 1969) and is here designated lectotype. This species is a synonym of *Ischadium cubitus* (Say, 1821) (Usticke, 1971: 29).

Caelatura mesafricana Pilsbry and Bequaert, 1927: 402–403, pl. 32, figs. 2, 2a.
Holotype: AMNH **72093**.
Paratype: AMNH **72202** (1 specimen).
Locality: 04°10′N, 29°40′E, Garamba River (AMNH 72093), 02°25′N, 27°30′E, Medje (AMNH 72202), Belgian Congo [Zaire], Africa.
Collector: H. Lang and J. Chapin, Feb. 1913 (AMNH 72093) and H. Lang, 1915 (AMNH 72202).
Remarks: Additional paratypes are ANSP 133850 (Johnson and Baker, 1973: 162). AMNH 72093 was the figured specimen and AMNH 72202 was the "shorter specimen" cited by Pilsbry and Bequeart (1927: 403). This species is the type of the genus *Mesafra* Haas, 1936, by original designation (Haas, 1936: 84).

Caelatura (*Laevirostris*?) *rotula* Pilsbry and Bequaert, 1927: 405–406, pl. 33, figs. 5, 5a.
Paratypes: AMNH **106840** (3 specimens).
Locality: 04°25′S, 15°20′E, Leopoldville, Congo River, Belgian Congo [Zaire], Africa.
Collector: J. Bequaert.
Remarks: ex MCZ. The holotype is ANSP 133847 (Johnson and Baker, 1973: 168) and additional paratypes are MCZ 161863 (Johnson, 1956: 133). *Coelatura* Conrad, 1853, was unjustifiably emended to *Caelatura* by Simpson (1900), making *Caelatura* a junior objective synonym (Rosenberg et al., 1990: 29). This species is a synonym of *Coelatura* (*Laevirostris*) *bourguignati* (Rochebrune, 1886) (Haas, 1936: 66).

Caelatura stanleyvillensis Pilsbry and Bequaert, 1927: 403, pl. 32, figs. 3, 3a, 4; pl. 33, fig. 3.
Holotype: AMNH **72094**.
Paratypes: AMNH **72095** (1 specimen), **72200** (20 specimens).
Locality: 00°30′N, 25°15′E, Stanleyville, Congo River, Belgian Congo [Zaire], Africa.
Collector: H. Lang and J. Chapin, 1909–1915.
Remarks: Additional paratypes are MCZ 142354 (Johnson, 1956: 136), ANSP

133852, FMNH 77363, and MRAC 56.360–56.362. AMNH 72094 was pl. 32, figs. 3, 3a and AMNH 72095 was pl. 32, fig. 4 (Pilsbry and Bequaert, 1927). This species is a synonym of *C. (Zairia) elegans* (Rochebrune, 1886) (Haas, 1936: 67). See remarks under the previous species for justification in correcting the spelling of the genus to *Coelatura.*

Calyptogena (Ectenagena) magnifica Boss and Turner, 1980: 165–177, figs. 1–9, 10 f, g, 11, 12 d–f, 13.
Paratype: AMNH **206087** (1 specimen).
Locality: Dive 984, 00°48.24′N, 86°13.47′W, 2450 m, Galápagos Rift, Pacific Ocean.
Collector: DSRV Alvin.
Remarks: ex MCZ 288829. The holotype is MCZ 288500 and additional paratypes are in MCZ as well as several other museum collections (Boss and Turner, 1980: 165).

Cardium (Laevicardium) clarionense Hertlein and Strong, 1947: 144–145, pl. 1, figs. 5–7, 14.
Paratype: AMNH **160330** (1 valve).
Locality: Station 136-D-15, 23°28′30″N, 109°25′W, 40 fathoms, in mud and crushed shell, Arena Bank, Gulf of California, Mexico, Pacific Ocean.
Collector: Templeton Crocker Expedition, April 20, 1936.
Remarks: ex NYZS. The holotype is CASIZ 065551 and additional paratypes are CASIZ 065552, 064508 (Hertlein and Strong, 1947: 145). This species is placed in *Laevicardium* Swainson, 1840, sensu stricto (Bernard, 1983: 38).

Cardium parvulum Li, 1930: 259, pl. 3, fig. 22.
Holotype: AMNH **268088** (1 valve).
Locality: Mouth of Rio Grande, in mud, 10–40 ft, 1 mi from mainland near La Boca, Panama Bay, Panama, Pacific Ocean.
Collector: D. F. MacDonald, 1907.
Remarks: ex Columbia University 22082. AMNH 268088 is the holotype by monotypy. This species is a synonym of *Trachycardium (Mexicardia) procerum* (Sowerby, 1833) (Bernard, 1983: 38).

Chione (Chione) guatulcoensis Hertlein and Strong, 1948: 182, pl. 1, figs. 2, 4, 6; pl. 2, figs. 1, 8, 12, 13.
Paratype: AMNH **160347** (1 specimen).
Locality: Station 195-D-9, 15°44′28″, 96°07′51″W, 7 fathoms, in sand and crushed shell, Port Guatulco, Mexico, Pacific Ocean.
Collector: Eastern Pacific "Zaca" Expedition, Dec. 5, 1937.
Remarks: ex NYZS. The holotype is CASIZ 065557 and additional paratypes are CASIZ 065558, 064492 (Hertlein and Strong, 1948: 182).

Chione minor Usticke, 1969: 6, pl. 1, fig. 1650.
Lectotype: AMNH **198485** (1 valve).
Locality: Mangrove swamps, "Antigua and Barbuda," Atlantic Ocean.
Collector: G. Usticke.
Remarks: ex Usticke Collection 1650. AMNH 198485 was the figured specimen (Usticke, 1969) and is here designated lectotype.

Chlamydella favus lemchei Powell, 1958: 70–71, pl. 9, figs. 7, 8.
Paratypes: AMNH **105518** (6 valves).
Locality: Station 674, 29°15′S, 177°57′W, 75–85 m, Raoul Island, Kermadec Islands, Pacific Ocean.
Collector: R/V "Galathea," March 3, 1952.
Remarks: ex Powell. The holotype is in the Zoological Museum, Copenhagen, Denmark (Powell, 1958: 71) and additional paratypes are FMNH 118999.

Condylonucula maya Moore, 1977: 124, figs. 4, 5.
Paratypes: AMNH **183858** (5 valves).
Locality: Chancanab Lagoon, 2 m, Cozumel, Quintana Roo, Mexico, Atlantic Ocean.
Collector: D. R. Moore, Nov. 29, 1971.
Remarks: ex Moore. The holotype is USNM 758533 and additional paratypes are USNM 758536, MCZ 288443, ANSP 344389, DMNH 120579, FMNH 198080, UMML 28-2810, and in the collection of the author (Moore, 1977: 124).

Corbula altirostris Li, 1930: 263–264, pl. 5, fig. 37.
Holotype: AMNH **268092** (1 valve).
Locality: Mouth of Rio Grande, in mud, 10–40 ft, 1 mi from mainland near La Boca, Panama Bay, Panama, Pacific Ocean.
Collector: D. F. MacDonald, 1907.
Remarks: ex Columbia University 22097. AMNH 268092 is the holotype by mono-

typy. This species is a synonym of *Mulinia pallida* (Broderip and Sowerby, 1829) (Keen, 1971: 207).

Corbula glypta Li, 1930: 264, pl. 5, figs. 38, 38a.
Holotype: AMNH **268094**.
Locality: Mouth of Rio Grande, in mud, 10–40 ft, 1 mi from mainland near La Boca, Panama Bay, Panama, Pacific Ocean.
Collector: D. F. MacDonald, 1907.
Remarks: ex Columbia University 22098. AMNH 268094 is the holotype by monotypy. This species is a synonym of *C.* (*Tenuicorbula*) *tenuis* Sowerby, 1833 (Bernard, 1983: 58).

Crassatellites rudis Li, 1930: 257, pl. 3, fig. 16.
Holotype: AMNH **268086** (1 valve).
Locality: Mouth of Rio Grande, in mud, 10–40 ft, 1 mi from mainland near La Boca, Panama Bay, Panama, Pacific Ocean.
Collector: D. F. MacDonald, 1907.
Remarks: ex Columbia University 22076. AMNH 268086 is the holotype by monotypy. This species is a synonym of *Eucrassatella gibbosa* Sowerby, 1832 (Keen, 1971: 104).

Crassinella lata Usticke, 1969: 5, pl. 1, fig. 1545.
Lectotype: AMNH **198481** (1 valve).
Locality: Ham Bay, St. Croix, U.S. Virgin Islands, Atlantic Ocean.
Collector: G. Usticke.
Remarks: ex Usticke Collection 1545. AMNH 198481 was the figured specimen (Usticke, 1969) and is here designated lectotype.

Crassinella skoglundae Coan, 1979: 6–7, figs. 12–15.
Paratype: AMNH **200376** (1 specimen).
Locality: Bahia Banderas, 20°45′N, 105°24′W, 7.5–15 m, La Cruz, Nayarit, Mexico, Pacific Ocean.
Collector: C. and P. Skoglund, July 31, 1973.
Remarks: ex Skoglund. The holotype is CASIZ 085659 and additional paratypes are in CASIZ, LACM 1904, ANSP, MCZ 288512, and SDNHM (Coan, 1979: 7).

Cuspidaria (*Tropidomya*) *nana* Oldroyd, 1918: 28.
Paratype: AMNH **58306** (1 specimen).
Locality: In clay, Monterey Bay, California, United States, Pacific Ocean.
Collector: Unknown.
Remarks: ex Oldroyd. The holotype was in the Oldroyd Collection, Stanford University (Oldroyd, 1918: 28), now CASIZ 060981. The holotype was figured by Oldroyd (1924: 99, pl. 13, figs. 8, 9). This species is a synonym of *Sphenia luticola* (Valenciennes, 1846) (Bernard, 1983: 58).

Cyrena jayensis Lea, 1834: 108, pl. 17, fig. 52.
Syntype: AMNH **31337** (1 specimen).
Locality: Sumatra, [Indonesia].
Collector: Unknown.
Remarks: ex Jay Collection 760. Johnson (1959: 457) cited MCZ 176905 as a paratype. Since Lea did not designate a holotype and no lectotype has since been designated, all specimens in the type series are syntypes. AMNH 31337 is fig. 5 herein.

Cyrenoida rosea brevidentata Pilsbry and Bequaert, 1927: 376–377, text fig. 85.
Holotype: AMNH **72097**.
Locality: 05°55′S, 12°35′E, Kunga, Belgian Congo [Zaire], Africa.
Collector: H. Lang and J. Chapin, 1909–1915.
Remarks: The paratype is ANSP 133310.

Donax dorotheae Morrison, 1971: 554–556, pl. 1, fig. Do.
Paratypes: AMNH **162251** (134 specimens), **181631** (33 specimens), **189618** (34 specimens), **213566** (30 specimens), **223498** (55 specimens), **225197** (580 specimens), **225198** (1820 specimens), **276090** (1370 specimens).
Locality: Grand Isle, Louisiana, United States, Atlantic Ocean.
Collector: J. P. E. Morrison, Jan. 3, 1970.
Remarks: ex USNM, MCZ and several private collections. The holotype is USNM 679773 and additional paratypes are in USNM and ANSP (Morrison, 1971: 555), SBMNH 32286, 35047 (Scott et al., 1990: 15), MCZ 302542, LACM 1604, and FMNH [uncataloged]. This species is a synonym of *D. texasianus* Philippi, 1847 (Adamkewicz and Harasewych, 1994: 24).

Donax striatus var. *intermedius* Usticke, 1969: 7, pl. 1, fig. 1769.
Lectotype: AMNH **198486** (1 valve).

Locality: Trinidad, Trinidad and Tobago, Atlantic Ocean.
Collector: G. Usticke.
Remarks: ex Usticke Collection 1769. AMNH 198486 was the figured specimen (Usticke, 1969) and is here designated lectotype. Although the term "var." was employed, all "varieties" (including this one) described by Usticke (1969) were called "new s[ub] sp[ecies]" or, in error, "new sp[ecies]." This taxon, described with an infrasubspecific term after 1960, should nevertheless be considered subspecific as it was not published expressly as a "variety" in the traditional sense of the word. This taxon was erroneously cited as "*Donax intermedius*" in the figure caption.

Egeria nux Pilsbry and Bequaert, 1927: 367–368, pl. 29, figs. 4–7, text fig. 82.
Holotype : AMNH **72092** (lost).
Paratypes: AMNH **72180** (40 valves), **72181** (8 valves).
Locality: 06°S, 12°40′E, Malela, Belgian Congo [Zaire], Africa.
Collector: H. Lang and J. Chapin, 1909–1915.
Remarks: The holotype (Pilsbry and Bequart, 1927: pl. 29, fig. 4) cannot be located in the AMNH collection. Additional paratypes are MCZ 181377, ANSP 133889, and MRAC 55.317–55.326. *Egeria* Roissy, 1805, is a synonym of *Galatea* Bruguiere, 1797 (Vaught, 1989: 133); therefore this species should be placed in *Galatea.*

Egeria tenuicula langi Pilsbry and Bequaert, 1927: 366–367, pl. 29, figs. 1–3.
Holotype: AMNH **72091**.
Paratypes: AMNH **72185** (89 valves).
Locality: 06°S, 12°40′E, Malela, Belgian Congo [Zaire], Africa.
Collector: H. Lang and J. Chapin, 1909–1915.
Remarks: AMNH 72091 was pl. 29, fig. 1 (Pilsbry and Bequaert, 1927). Additional paratypes are MCZ 181379, ANSP 133886, 133888, and MRAC 55.331–55.350. See remarks under *Egeria nux* for justification in placing this species in *Galatea.*

Elliptio mcmichaeli Clench and Turner, 1956: 170–171, pl. 7, figs. 1, 2.
Paratypes: AMNH **271104** (6 specimens).
Locality: Choctawhatchee River, 8 mi west of Miller Cross Roads, Holmes Co., Florida, United States, North America.
Collector: W. J. Clench, R. D. Turner, and D. F. McMichael, Sept. 11, 1954
Remarks: ex MCZ. The holotype is MCZ 191922 and additional paratypes are in several museum collections (Clench and Turner, 1956: 170). This species is placed in the subgenus *Elliptio* Rafinesque, 1820 (Haas, 1969: 232). The spelling of "*E. macmichaeli*" by Haas (1969: 232) was an unjustified emendation (Bieler, 1988: 423).

Ensis myrae Berry, 1953: 398–401, pl. 29, figs. 5, 6; text figs. 3, 4.
Paratype: AMNH **221880** (1 specimen).
Locality: Long Beach, California, United States, Pacific Ocean.
Collector: Unknown.
Remarks: ex Chace Collection via DuShane. The holotype is CASIZ 064460 and additional paratypes are in several museums and private collections (Berry, 1953: 399–400).

Ensis tropicalis Hertlein and Strong, 1955: 203, pl. 3, figs. 34, 35.
Holotype: AMNH **73421** (1 valve).
Paratypes: AMNH **73422** (4 valves), **73422A** (30+ valves).
Locality: Station 7, South Passage, dredged from sandy bottom in 15 fathoms, Pearl Islands, Panama, Pacific Ocean.
Collector: "Askoy" Expedition, Feb. 13, 1941.
Remarks: Additional paratypes are CASIZ 032846 (Hertlein and Strong, 1955: 203) and FMNH 77534.

Eupera doellojuradoi Klappenbach, 1962: 102–106, figs. 1–3.
Paratypes: AMNH **138279** (4 specimens).
Locality: Rio de la Plata, Puerto Platero, Depto. Colonia, Uruguay, South America.
Collector: A. Figueiras, May 14, 1961.
Remarks: ex Collection Malacology, MNHN-M 1215. The holotype is MNHN-M 1214 and additional paratypes are MNHN-M 878, 989, 1215 (Klappenbach, 1962: 104–105) and MCZ 256925.

Eupera primei Klappenbach, 1967: 111–114, figs. 1–3.
Paratypes: AMNH **89158** (69 specimens).
Locality: Near Ucalayi River, Pequino, Peru, South America.
Collector: H. Bassler, Nov. 1923.
Remarks: ex Collection Malacology,

MNHN-M 1309. The holotype is MNHN-M 1220 and additional paratypes are MNHN-M 1309 (Klappenbach, 1967: 111–112).

Glauconome cumingi Prime, 1862b: 384–385, pl. 14, fig. 4.
Syntypes: AMNH **31550** (2 specimens).
Locality: Malacca, [Malaysia], Pacific Ocean.
Collector: Unknown.
Remarks: ex Jay Collection 10949 and 10950+. AMNH 31551, from the Constable Collection, was incorrectly cited by Johnson (1959: 459) as part of the type series; Constable had no type material for this species. Additional syntypes could not be located in either MCZ or BM(NH) (Johnson, 1959: 449).

Glauconome jayana Prime, 1861b: 354.
Lectotype: AMNH **31537**.
Locality: Australia.
Collector: Unknown.
Remarks: ex Jay Collection 10950. No types could be located in MCZ and a lectotype was selected from the Jay Collection and figured by Johnson (1959: 457, pl. 5, fig. 5.)

Glycymeris gordoni form *tobagoensis* Usticke, 1959: 2–3.
Syntype: AMNH **271074** (1 valve).
Locality: South of Fredericksted, St. Croix, U.S. Virgin Islands, Atlantic Ocean.
Collector: Unknown.
Remarks: ex Usticke Collection via L. and L. Schwartz. Although a potentially infrasubspecific term ("form") was used in this pre-1960 description (see ICZN, 1985: 87—article 45g), this taxon should be considered subspecific because Usticke (1959) used the terms "form," "variety," and "subspecies" interchangeably and even mixed terms within a single species description. Usticke (1959: vi) designated "as holotypes the new species and sub-species that are pictured." This subspecies was not figured in the original publication and, therefore, no holotype was designated. AMNH 271074 is fig. 6 herein. This taxon was also cited as "*Glycymens* (sic) *gordoni* form *tobagoensis* Usticke (N. Sp.)" (Usticke, 1959: 2).

Iphigenia congo Pilsbry and Bequaert, 1927: 373–374, text fig. 83.
Paratypes: AMNH **72188** (34 valves).
Locality: 06°S, 12°40′E, Malela, Belgian Congo [Zaire], Africa.
Collector: H. Lang and J. Chapin, 1909–1915.
Remarks: The holotype is ANSP 133884a and additional paratypes are ANSP 133884, 134042, MCZ 181390, and MRAC 55.353–55.360.

Iridina coelestis Lea, 1838: 82–83, pl. 22, fig. 70.
Paralectotype: AMNH **31292** (1 specimen).
Locality: Africa.
Collector: Unknown.
Remarks: ex Jay Collection 1991. Johnson (1974: 32) indicated that all syntypes were lost. The specimen figured by Lea (1838) is USNM 86785, located during the 1994–1995 search, and is here designated lectotype. The Jay specimen was located at AMNH in 1994 and is figured for comparison (fig. 7 herein). An additional paralectotype is possibly USNM 86785a (there may be only two specimens in the type series or more, depending on how Lea's wording is interpreted). This species is a synonym of *Mutela* (*M.*) *dubia* (Gmelin, 1791) (Haas, 1969: 579).

Isocardia tetragona A. Adams and Reeve, 1850: 76–77, pl. 22, fig. 1.
Paralectotype: AMNH **51095** (1 specimen).
Locality: Japan, Pacific Ocean.
Collector: H. M. S. "Samarang," 1843–1846.
Remarks: ex Constable Collection. The label is marked "Adam's type specimen." Kosuge (1994: 42) stated that the holotype was BM(NH) 1874.12.11.270. Since A. Adams and Reeve did not designate a holotype, Kosuge's action constituted a lectotype designation. This specific name is preoccupied by *I. tetragona* Koch and Dunker, 1837, and was replaced with *Meiocardia samarangiae* Bernard, Cai and Morton, 1993 (Bernard et al., 1993: 67).

Legrandina aucklandica Powell, 1933: 233, fig. 1.
Paratypes: AMNH **136332** (4 specimens).
Locality: Beach drift, Faith Harbour, Auckland Islands, New Zealand, Pacific Ocean.
Collector: J. Bollons.
Remarks: ex Mrs. Winton Barker. The holotype is in the M. K. Mestayer Collection and additional paratypes are in the M. K.

Mestayer Collection (Powell, 1933: 233) and LACM 1356 (Sphon, 1971: 2). This species is placed in *Perrierina* Bernard, 1897, as *P.* (*Legrandina*) *aucklandica* (Powell, 1979: 403).

Limopsis (*Limopsis*) *diegensis* Dall, 1908: 395, pl. 15, figs. 13, 15.
Syntypes: AMNH **226332** (25 specimens).
Locality: Station 2923, 32°40′30″N, 117°31′30″W, 822 fathoms, off San Diego, California, United States, Pacific Ocean.
Collector: "Albatross," Jan. 19, 1889.
Remarks: ex USNM. Additional syntypes are USNM 122585 (Dall, 1908: 395), LACM 1166 (Sphon, 1971: 2), USNM 110699, 110700, 111422, SBMNH 34060 (Scott et al., 1990: 10), MCZ 27844, 187523, and FMNH 41068, 90695.

Macoma (*Psammacoma*) *panamensis spectri* Hertlein and Strong, 1949a: 91–92, pl. 1, figs. 9, 10, 16.
Paratypes: AMNH **160341** (2 valves), **270833** (7 valves).
Locality: Station 143-D-3, 26°57′N, 111°56′W, 35 fathoms, in mud and crushed shell, Santa Inez Bay, Gulf of California, Mexico, Pacific Ocean (AMNH 160341) and no precise locality, probably Gulf of California, Mexico, Pacific Ocean (AMNH 270833).
Collector: Templeton Crocker Expedition, April 13, 1936 (AMNH 160341).
Remarks: ex NYZS. The holotype is CASIZ 031198 and additional paratypes are CASIZ 031199 (Hertlein and Strong, 1949a: 91). This subspecies is a synonym of *M. siliqua* (C. B. Adams, 1852) (Bernard, 1983: 45).

Mactra (*Micromactra*) *fonsecana* Hertlein and Strong, 1950: 232, pl. 2, figs. 16, 19, 20.
Paratypes: AMNH **160102**, **160103** (1 valve each), **160104** (2 valves), **160342** (1 specimen).
Locality: Station 199-D-1, Meanguera Island, Gulf of Fonseca, El Salvador (AMNH 160102); beach, Corinto, Nicaragua (AMNH 160103); Station 197-D-2, 14 fathoms, mud, 7 mi west of Champerico, Guatemala (AMNH 160104); Potosi and Monypenny Point, Gulf of Fonseca, Nicaragua (AMNH 160342), Pacific Ocean.
Collector: Eastern Pacific "Zaca" Expedition.
Remarks: ex NYZS. The holotype is CASIZ 061534 and additional paratypes are CASIZ 061535, 064511 (Hertlein and Strong, 1950: 232).

Mondocondylaea crebristriata Anthony, 1865: 205–206, pl. 18, fig. 1.
Paralectotypes: AMNH **271105** (3 specimens).
Locality: Pegu, Burma [Myanmar], Asia.
Collector: Unknown.
Remarks: ex MCZ. Johnson (1956: 111) stated that the holotype was MCZ 161872. Since Anthony did not designate a holotype, Johnson's action constituted a lectotype designation. Additional paralectotypes are MCZ 161872 (Johnson, 1956: 111), 178935, ANSP 41761, 125804 (Johnson and Baker, 1973: 152), and USNM 86327. This species is a synonym of *Pseudodon i. inoscularis* (Gould, 1844) (Brandt, 1974: 267).

Monocondylaea mardinensis Lea, 1865: 286.
Paralectotype: AMNH **106843** (1 specimen).
Locality: Stream into Tigris River, near Mardin, Iraq, Asia.
Collector: Unknown.
Remarks: ex C. M. Wheatley via MCZ. Johnson and Baker (1973: 161) stated that the specimen (USNM 86354) figured by Lea (1869: 252–253, pl. 30, fig. 67) was the holotype. Since Lea did not designate a holotype, Johnson and Bakers' action constituted a lectotype designation. Additional paralectotypes are ANSP 41034 (Johnson and Baker, 1973: 161), MCZ 152886, 178756, 240335, 293262. This species is a synonym of *Leguminaia wheatleyi* (Lea, 1862) (Haas, 1969: 143).

Montacuta cruzensis Usticke, 1969: 6, pl. 1, fig. 1609.
Lectotype: AMNH **198482** (1 valve).
Locality: St. Croix, U.S. Virgin Islands, Atlantic Ocean.
Collector: G. Usticke.
Remarks: ex Usticke Collection 1609. AMNH 198482 was renumbered as 1611 by Usticke (1971: 29). AMNH 198482 was the figured specimen (Usticke, 1969) and is here designated lectotype.

Mutela garambae Pilsbry and Bequaert, 1927: 431–432, pl. 40, figs. 1, 1a, 2.

Holotype: AMNH **72067**.
Locality: 04°10′N, 29°40′E, in sand and mud of the river bed, Middle Garamba River, Belgian Congo [Zaire], Africa.
Collector: H. Lang and J. Chapin, Feb. 1913.
Remarks: AMNH 72067 was pl. 40, figs. 1, 1a (Pilsbry and Bequaert, 1927). Paratypes are ANSP 134051 (Johnson and Baker, 1973: 156) and MRAC 58.443. This species is a synonym of *M.* (*M.*) *dubia* (Gmelin, 1791) (Haas, 1969: 579–580).

Mutela garambae praetenuis Pilsbry and Bequaert, 1927: 432, pl. 40, fig. 3.
Holotype: AMNH **72066**.
Locality: 03°50′N, 30°10′E, Near Aba, Aba River, Belgian Congo [Zaire], Africa.
Collector: H. Lang and J. Chapin, 1909–1915.
Remarks: AMNH 72066 was the figured specimen (Pilsbry and Bequaert, 1927). A paratype is ANSP 132309 (Johnson and Baker, 1973: 167). This subspecies is a synonym of *M.* (*M.*) *dubia* (Gmelin, 1791) (Haas, 1969: 579–580).

Mutela langi Pilsbry and Bequaert, 1927: 432–433, pl. 39, figs. 3, 3a, 3b.
Paratypes: AMNH **72198** (62 valves).
Locality: 06°s, 12°50′E, in bed of an arm of the Congo River, Zambi, Belgian Congo [Zaire], Africa.
Collector: H. Lang and J. Bequaert, 1915.
Remarks: The holotype is ANSP 133860a (Johnson and Baker, 1973: 160) and additional paratypes are MCZ 41068 (Johnson, 1956: 121), ANSP 132311, 133860, UMMZ 239354 (Johnson, 1979: 32), FMNH 77355, and MRAC 58.471–58.496. This species is a synonym of *M.* (*M.*) *dubia* (Gmelin, 1791) (Haas, 1969: 579–580).

Mya japonica Jay, 1856: 292, pl. 1, figs. 7, 10.
Syntype: AMNH **34162** (1 specimen).
Locality: Volcano Bay, Yedo Island, Japan, Pacific Ocean.
Collector: U.S. Naval Expedition to Japan, 1852–1854.
Remarks: ex Jay Collection 10995. This specimen was figured by Habe (1977, pl. 1, fig. 10; pl. 2, figs. 1–3). This species is placed in the subgenus *Arenomya* Winckworth, 1930 (Higo and Goto, 1993: 664).

Mycetopus emarginatus Lea, 1860: 308.
Paralectotypes: AMNH **30459** (7 specimens).
Locality: Siam [Thailand], Asia.
Collector: Unknown.
Remarks: ex Haines Collection. Johnson (1974: 52) stated that the specimen (USNM 86787) figured by Lea (1863: 398–399, pl. 50, fig. 305) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. This species is the type of the genus *Solenaia* Conrad, 1869, by monotypy as *S. emarginata* (Conrad, 1869: 249), but may be a species of the American genus *Mycetopoda* Orbigny, 1835 (Brandt, 1974: 334).

Nucula calcicola Moore, 1977: 120–122, figs. 1–3.
Paratypes: AMNH **183857** (10 valves).
Locality: Chancanab Lagoon, 2 m, Cozumel, Quintana Roo, Mexico, Atlantic Ocean.
Collector: D. R. Moore, Nov. 29, 1971.
Remarks: ex Moore. The holotype is USNM 758535 and additional paratypes are USNM 758537, DMNH 120581, ANSP 344387, MCZ 288445, BM(NH), in Leiden, MNHN-P, and UMML 28-2812 (Moore, 1977: 120–121).

Nucula eightsii Jay, 1839: 113, pl. 1, figs. 12, 13.
Syntype: AMNH **56119** (1 specimen).
Locality: New South Shetland Island, Atlantic Ocean.
Collector: J. G. Eights.
Remarks: ex Jay Collection 1447. Jay, not Couthouy *in* Jay, is the author of this species (Johnson, 1946: 39). Dell cited this specimen as "Jay's figured type." This statement does not imply that AMNH 56119 is the lectotype and Dell (1990) cited this specimen as the "figured syntype." Neither Dell (1963) nor Richards and Old (1969), who based their citation of AMNH 56119 as the "holotype" on Dell (1963), were therefore making a lectotype designation. This species is placed in *Yoldia* Möller, 1842, as *Y.* (*Aequiyoldia*) *eightsi* (Dell, 1990: 10).

Nucula (*Nucula*) *interflucta* Marincovich, 1973: 7–8, fig. 1.
Paratypes: AMNH **172412** (21 specimens).
Locality: 20°13′S, 70°10′W, Near end of Ave.

Baquedana, Iquique, Tarapaca Province, Chile, Pacific Ocean.
Collector: L. Marincovich, June–Aug. 1964.
Remarks: ex LACM 64-16. The holotype is LACM 1581 and additional paratypes are LACM 1582, USNM 709015, CASIZ 085610, SDNHM, and ANSP (Marincovich, 1973: 7).

Nucula (*Nuculopsis*) *schencki* Hertlein and Strong, 1940: 384, pl. 1, figs. 8–10.
Paratype: AMNH **160806** (1 specimen).
Locality: Station 195-D-9, 15°44′28″N, 96°07′51″W, 7 fathoms, in sand and crushed shell, Port Guatulco, Mexico, Pacific Ocean.
Collector: Eastern Pacific "Zaca" Expedition, Dec. 5, 1937.
Remarks: ex NYZS. The holotype is CASIZ 065653 and additional paratypes are CASIZ 065654, 065655. This species is placed in the subgenus *Nucula* Lamarck, 1799 (Bernard, 1983: 9).

Nuculana (*Costelloleda*) *marella* Hertlein, Hanna, and Strong *in* Hertlein and Strong, 1940: 399–400, pl. 2, figs. 12, 13.
Paratypes: AMNH **73925** (4 valves), **160807** (2 valves).
Locality: Station 221-D-1-5, 07°54′15″-07°52′30″N, 82°02′45″-82°01′W, 35–40 fathoms, in sandy mud, Gulf of Chiriqui, Panama, Pacific Ocean.
Collector: Eastern Pacific "Zaca" Expedition, March 13, 1938.
Remarks: ex NYZS. The holotype is CASIZ 065656. This species is placed in the subgenus *Nuculana* Link, 1807 (Allen and Hannah, 1986: 232–233).

Parabornia squillina Boss, 1965: 2–6, figs. 1–3.
Holotype: AMNH **112526**.
Paratypes: AMNH **112527** (8 specimens).
Host: *Lysiosquilla scabricauda* (Malacostraca).
Locality: Attached to the ventral surface of the abdomen and thorax of host, Cristobal, Canal Zone, Panama, Atlantic Ocean.
Collector: Unknown, Aug. 23, 1934.
Remarks: AMNH 112526 was fig. 1 (Boss, 1965). Additional paratypes are USNM 653701 (Boss, 1965: 4). This species is the type of the genus *Parabornia* Boss, 1965, by monotypy (Boss, 1965: 2).

Pecten fililextus Li, 1930: 255, pl. 2, fig. 10.
Holotype: AMNH **268083** (1 valve).
Locality: Mouth of Rio Grande, in mud, 10–40 ft, 1 mi from mainland near La Boca, Panama Bay, Panama, Pacific Ocean.
Collector: D. F. MacDonald, 1907.
Remarks: ex Columbia University 22070. AMNH 268083 is the holotype by monotypy. *P. filitextus* Pilsbry (1931: 429) was an unjustified emendation and therefore a junior synonym of *P. fililextus*. This species is a synonym of *Argopecten circularis* (Sowerby, 1835) (Keen, 1971: 87).

Pecten islandicus pugetensis Oldroyd, 1920: 136, pl. 4, figs. 5, 6.
Paratype: AMNH **30549** (1 specimen).
Locality: Off San Juan Islands, Puget Sound, Washington, United States, Pacific Ocean.
Collector: Unknown.
Remarks: ex Oldroyd. The holotype was in the Oldroyd Collection at Stanford University (Oldroyd, 1920: 136), now CASIZ 064278. Additional paratypes are CASIZ 066375 and SBMNH 34893 (Scott et al., 1990: 12). This subspecies is a synonym of *Chlamys hastata* (Sowerby, 1843) (Bernard, 1983: 24).

Pecten latiauritus [sic] *indentus* Li, 1930: 256, pl. 2, fig. 13.
Lectotype: AMNH **268085** (1 valve).
Paralectotype: AMNH **268085a** (1 valve).
Locality: Mouth of Rio Grande, in mud, 10–40 ft, 1 mi from mainland near La Boca, Panama Bay, Panama, Pacific Ocean.
Collector: D. F. MacDonald, 1907.
Remarks: ex Columbia University 22073. AMNH 268085 was the figured specimen (Li, 1930) and is here designated lectotype. This subspecies is a synonym of *Leptopecten* (*Pacipecten*) *tumbezensis* (Orbigny, 1846) (Bernard, 1983: 25).

Pecten latiauritus [sic] *splendens* Li, 1930: 256, pl. 2, fig. 12.
Holotype: AMNH **268084** (1 valve).
Locality: Mouth of Rio Grande, in mud, 10–40 ft, 1 mi from mainland near La Boca, Panama Bay, Panama, Pacific Ocean.
Collector: D. F. MacDonald, 1907.
Remarks: ex Columbia University 22072. AMNH 268084 is the holotype by monotypy. This subspecies is a synonym of *Lep-*

topecten (*Pacipecten*) *tumbezensis* (Orbigny, 1846) (Bernard, 1983: 25).

Pecten (*Leptopecten*) *velero biolleyi* Hertlein and Strong, 1946: 60–61, pl. 1, fig. 6.
Paratypes: AMNH **160346** (3 valves).
Locality: Station 203-D-1, 10°56′05″N, 85°49′25″W, 15 fathoms, Port Parker, Costa Rica, Pacific Ocean.
Collector: Eastern Pacific "Zaca" Expedition, Jan. 20, 1938.
Remarks: ex NYZS. The holotype is CASIZ 064334 and additional paratypes are CASIZ 064335 (Hertlein and Strong, 1946: 61). This subspecies is accorded species status in *Leptopecten* Verrill, 1897 sensu stricto (Bernard, 1983: 25).

Penitella hopkinsi Kennedy and Armentrout, 1989: 320–324, figs. 1–13.
Paratype: AMNH **232083** (1 specimen).
Locality: Southeast margin of modern emergent marine abrasion platform on southwest facing end of Wingham Island, 59°59′28.2″N, 144°22′36″W, Gulf of Alaska, Alaska, United States, Pacific Ocean.
Collector: J. M. Armentrout, July 16, 1975.
Remarks: ex Kennedy. The holotype is LACM 2387 and additional paratypes are in several museum collections and in the collection of the junior author (Kennedy and Armentrout, 1989: 321, 323).

Penitella richardsoni Kennedy, 1989: 316–318, figs. 7–15.
Paratypes: AMNH **104306** (2 specimens).
Locality: At minus 2.3 tide, in soft clay rocks, 5 mi east of Port Orchard, Waterman, Washington, United States, Pacific Ocean.
Collector: E. Wingard, May 30, 1961.
Remarks: ex Kennedy. The holotype is LACM 2378 and additional paratypes are in several museum collections (Kennedy, 1989: 318).

Phacoides (*Lucinisca*) *liana* Pilsbry, 1931: 435, pl. 41, fig. 3.
Holotype: AMNH **268087** (1 valve) (lost).
Locality: Mouth of Rio Grande, in mud, 10–40 ft, 1 mi from mainland near La Boca, Panama Bay, Panama, Pacific Ocean.
Collector: D. F. MacDonald, 1907.
Remarks: ex Columbia University 22080. This specimen could not be located at AMNH, ANSP, MCZ or USNM. This species is a synonym of *Lucina centrifuga* (Dall, 1901) (Keen, 1971: 121).

Pisidium fallax Sterki, 1896: 20.
Syntypes: AMNH **64869** (9 valves).
Locality: Tuscarawas River, on sand and gravel, New Philadelphia, Ohio, United States, North America.
Collector: V. Sterki, Oct.–Nov. 1891.
Remarks: ex Sterki. Additional syntypes are MCZ 88389 (Johnson, 1959: 451). The species was figured by Herrington (1962, pl. 4, fig. 5; pl. 7, fig. 11).

Pitar (*Hyphantosoma*) *aletes* Hertlein and Strong, 1948: 172–173, pl. 1, figs. 9, 11–13.
Paratype: AMNH **160329** (1 valve).
Locality: Gulf of California, Mexico, Pacific Ocean.
Collector: Templeton Crocker Expedition, 1936.
Remarks: ex NYZS. The holotype is CASIZ 065554 (Hertlein and Strong, 1948: 172).

Pitar (*Lamelliconcha*) *frizzelli* Hertlein and Strong, 1948: 176, pl. 1, figs. 1, 5, 7; pl. 2, fig. 11.
Paratypes: AMNH **160333** (2 valves).
Locality: Station 136-D-26, 23°27′N, 109°24′W, 45 fathoms, in sand and crushed shell, Arena Bank, Gulf of California, Mexico, Pacific Ocean.
Collector: Templeton Crocker Expedition, May 1, 1936.
Remarks: ex NYZS. The holotype is CASIZ 065555 and additional paratypes are CASIZ 065556, 064491.

Raeta maxima Li, 1930: 263, pl. 5, fig. 35.
Lectotype: AMNH **268093** (1 valve).
Paralectotype: AMNH **268093a** (1 valve).
Locality: Mouth of Rio Grande, in mud, 10–40 ft, 1 mi from mainland near La Boca, Panama Bay, Panama, Pacific Ocean.
Collector: D. F. MacDonald, 1907.
Remarks: ex Columbia University 22095. AMNH 268093 was the figured specimen (Li, 1930) and is here designated lectotype. This species is a synonym of *Harvella elegans* (Sowerby, 1825) (Keen, 1971: 206).

Salaputium iredalei Powell, 1958: 72–73, pl. 9, fig. 6.
Paratypes: AMNH **105515** (10 valves).

Locality: Station 674, 29°15′S, 177°57′W, 75–85 m, Raoul Island, Kermadec Islands, Pacific Ocean.
Collector: R/V "Galathea," March 3, 1952.
Remarks: ex Powell. The holotype is in the Zoological Museum, Copenhagen, Denmark (Powell, 1958: 66) and additional paratypes are FMNH 118975.

Semele aurora Tursch and Pierret, 1964: 35–36, figs. 1–3.
Paratype: AMNH **111915** (1 specimen).
Locality: Off Rio de Janeiro, 30 fathoms, in sand, Brazil, Atlantic Ocean.
Collector: B. Tursch.
Remarks: ex Tursch. The holotype is CASIZ 064686 and an additional paratype is Museu Nacional, Rio de Janeiro 3116 (Tursch and Pierret, 1964: 35–36). This species is a synonym of *Semele modesta* (Reeve, 1853) (Rios, 1994: 275).

Semele craneana Hertlein and Strong, 1949b: 241–242, pl. 1, figs. 19, 22.
Paratype: AMNH **160337** (1 valve).
Locality: Station 136-D-26, 23°27′N, 109°24′W, 45 fathoms, in sand and crushed shell, Arena Bank, Gulf of California, Mexico, Pacific Ocean.
Collector: Templeton Crocker Expedition, May 1, 1936.
Remarks: ex NYZS. The holotype is CASIZ 064521 and additional paratypes are CASIZ 064534, 064497 (Hertlein and Strong, 1949b: 241). This species is placed in the subgenus *Amphidesma* Lamarck, 1818 (Coan, 1988: 16).

Semele jamesi Coan, 1988: 33–35, figs. 62, 63.
Paratypes: AMNH **232169** (3 valves).
Locality: 05°33′N, 87°02′30″W, 46–69 m, in coral rubble, Chatham Bay, Cocos Island, Costa Rica, Pacific Ocean.
Collector: D. Shasky, M. Montoya and K. Kaiser, May 27, 1985.
Remarks: ex SBMNH 34942. The holotype is SBMNH 34941 and additional paratypes are in several museum collections (Coan, 1988: 33).

Septifer zeteki Hertlein and Strong, 1946: 71–72, pl. 1, figs. 1, 2.
Paratype: AMNH **160073** (1 specimen).
Locality: Taboga Island, 25 fathoms, Panama, Pacific Ocean.
Collector: J. Zetek, 1937–1938.
Remarks: ex NYZS. The holotype is CASIZ 064328 and additional paratypes are CASIZ 064329–064331 (Hertlein and Strong, 1946: 71).

Solen crockeri Hertlein and Strong, 1950: 225–226, pl. 1, figs. 3, 5, 7.
Paratype: AMNH **160343** (1 specimen).
Locality: Station 199-D-2, 13°02′30″N, 87°29′30″W, 5 fathoms, Monypenny Point, Gulf of Fonseca, Nicaragua, Pacific Ocean.
Collector: Eastern Pacific "Zaca" Expedition, Dec. 24, 1937.
Remarks: ex NYZS. The holotype is CASIZ 039970 and additional paratypes are CASIZ 064509, 061533 (Hertlein and Strong. 1950: 225). This species is placed in the subgenus *Solen* Linnaeus, 1758 (Bernard, 1983: 41).

Solen viridis var. *aldridgei* Usticke, 1969: 7, pl. 1, fig. 1780.
Lectotype: AMNH **198487** (1 valve).
Locality: Ramsey Bay, Antigua and Barbuda, Atlantic Ocean.
Collector: R. Aldridge.
Remarks: ex Usticke Collection 1780. AMNH 198487 was the figured specimen (Usticke, 1969) and is here designated lectotype. Although the term "var." was employed, all "varieties" (including this one) described by Usticke (1969) were called "new s[ub] sp[ecies]" or, in error, "new sp[ecies]." This taxon, described with an infrasubspecific term after 1960, should nevertheless be considered subspecific as it was not published expressly as a "variety" in the traditional sense of the word. This taxon was erroneously cited as "*Solen aldridgei*" in the figure caption.

Somalipecten cranmerorum Waller, 1986: 42–45, figs. 1–13.
Paratypes: AMNH **222557** (1 specimen), **222558** (6 specimens), **241626** (1 specimen).
Locality: Trawled from 150–300 m, off Somalia, Indian Ocean.
Collector: Taiwanese fisherman, 1985.
Remarks: ex USNM (AMNH 222557), D. Dan (AMNH 222558) and M. C. Hayes Collection (AMNH 241626). The holotype

is USNM 859034 and additional paratypes are USNM 859035, 859036, and in several museum and private collections (Waller, 1986: 45). This species is the type of the genus *Somalipecten* Waller, 1986, by original designation (Waller, 1986: 41).

Sphaerium hendersoni Sterki, 1906: 69–70.
Syntypes: AMNH **172860** (3 specimens).
Locality: Waterholes, Crow Creek, 25 mi northeast of Greeley, Weld Co., Colorado, United States, North America.
Collector: J. Henderson.
Remarks: ex University of Colorado via W. Weeks. Additional syntypes are MCZ 10405 (Johnson, 1959: 455), SBMNH 35050 (Scott et al., 1990: 15), MCZ 36569, and FMNH 59070, 59527, 69443. This species is a synonym of *S. striatinum* (Lamarck, 1818) (Herrington, 1962: 27).

Tellina (*Moerella*) *arenica* Hertlein and Strong, 1949a: 68–69, pl. 1, figs. 5, 11.
Paratypes: AMNH **160339** (1 specimen), **160344** (1 valve).
Locality: Between Puntarenas and Bat Bat Island, Puntarenas, Costa Rica (AMNH 160339) and Station 136-D-20, 23°30′N, 109°26′W, 43 fathoms, Arena Bank, Gulf of California, Mexico (AMNH 160344), Pacific Ocean.
Collector: Templeton Crocker Expedition, 1932 (AMNH 160339) and April 30, 1936 (AMNH 160344).
Remarks: ex NYZS. The holotype is CASIZ 031181 and additional paratypes are CASIZ 031182 (Hertlein and Strong, 1949a: 68). This species is a synonym of *T.* (*Angulus*) *carpenteri* Dall, 1900 (Bernard, 1983: 42).

Tellina (*Eurytellina*) *eburnea askoyana* Hertlein and Strong, 1955: 197, pl. 3, figs. 3, 13–15, 20, 21, 23.
Paratype: AMNH **73432** (1 specimen).
Locality: Station 19, sample 35, 14–33 m, gray sandy mud bottom, Pinas Bay, Panama, Pacific Ocean.
Collector: "Askoy" Expedition, Feb. 24, 1941.
Remarks: The holotype is CASIZ 031183 and additional paratypes are CASIZ 032842, 032843 (Hertlein and Strong, 1955: 197). AMNH 73432 was pl. 3, fig. 3 (Hertlein and Strong, 1955). This subspecies is a synonym of *T.* (*E.*) *eburnea* Hanley, 1844 (Bernard, 1983: 43).

Tellina (*Scissula*) *nicoyana* Hertlein and Strong, 1949a: 85–86, pl. 1, figs. 23–26.
Paratypes: AMNH **160092** (6 valves), **160336** (1 specimen).
Locality: Station 213-D-11, 09°44′52″N, 84°51′25″W to 09°42′N, 84°56′W, 35 fathoms, in mud, Ballena Bay, Gulf of Nicoya, Costa Rica, Pacific Ocean.
Collector: Eastern Pacific "Zaca" Expedition, Feb. 25, 1938.
Remarks: ex NYZS. The holotype is CASIZ 031190 and additional paratypes are CASIZ 031191, 064494 (Hertlein and Strong, 1949a: 85). This species is the type of the subgenus *Hertellina* Olsson, 1961 by monotypy (Olsson, 1961: 409).

Tellina panamanensis Li, 1930: 262, pl. 5, fig. 32.
Lectotype: AMNH **268089** (1 valve).
Paralectotype: AMNH **268090** (1 valve).
Locality: Mouth of Rio Grande, in mud, 10–40 ft, 1 mi from mainland near La Boca, Panama Bay, Panama, Pacific Ocean.
Collector: D. F. MacDonald, 1907.
Remarks: ex Columbia University 22092. AMNH 268089 (Li's figured specimen) was designated lectotype by Pilsbry (1931: 436, pl. 41, figs. 5, 6). This species is a synonym of *T.* (*Eurytellina*) *eburnea* Hanley, 1844 (Keen, 1971: 215).

Tellina tenuilineatus Li, 1930: 262, pl. 5, fig. 33.
Holotype: AMNH **268091** (1 valve).
Locality: Mouth of Rio Crande, in mud, 10–40 ft, 1 mi from mainland near La Boca, Panama Bay, Panama, Pacific Ocean.
Collector: D. F. MacDonald, 1907.
Remarks: ex Columbia University 22093. AMNH 268091 is the holotype by monotypy. This species is a synonym of *Temnoconcha cognata* (C. B. Adams, 1852) (Keen, 1971: 234).

Tellina (*Tellinella*) *zacae* Hertlein and Strong, 1949a: 65–66, pl. 1, figs. 12, 13, 17.
Paratype: AMNH **160334** (1 specimen).
Locality: Station 136-D-32, 23°24′30″N, 109°24′24″W to 23°28′N, 109°23′30″W, 42 fathoms, Arena Bank, Gulf of California, Mexico, Pacific Ocean.

Collector: Templeton Crocker Expedition, May 2, 1936.
Remarks: ex NYZS. The holotype is CASIZ 031200 and additional paratypes are CASIZ 064495 (Hertlein and Strong, 1949a: 65).

Transennella gerrardi Abbott, 1958: 130–131, pl. 4, figs. a–c, text fig. 7.
Paratypes: AMNH **108391** (5 valves).
Locality: In sand and broken coral, 5 fathoms, Georgetown Anchorage, Grand Cayman Island, Cayman Islands, Atlantic Ocean.
Collector: A. J. Ostheimer III, Oct. 28, 1954.
Remarks: ex ANSP. The holotype is ANSP 199507 and additional paratypes are ANSP 199506, 199508–199510, USNM 619551 (Abbott, 1958: 131), MCZ 211610 and MNHN-M (Olazarri et al., 1972: 4).

Unio africanus Lea, 1856: 94.
Paralectotypes: AMNH **30820** (3 specimens).
Locality: Cape of Good Hope, South Africa, Africa.
Collector: E. Verreau.
Remarks: ex Haines Collection 1481. Johnson (1974: 11) stated that the specimen (USNM 85233) figured by Lea (1858: 300–301, pl. 27, fig. 15) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. Additional paralectotypes are USNM 85233a. This species is a synonym of *Cafferia caffra* (Krauss, 1848) (Haas, 1969: 155).

Unio boydianus Lea, 1840: 286–287.
Paralectotype: AMNH **61912** (1 specimen).
Locality: Oak Orchard Creek, Orleans Co., New York, United States, North America.
Collector: Dr. Boyd.
Remarks: ex Jay Collection 1515. Johnson (1974: 22) stated that the specimen (USNM 86126) figured by Lea (1842: 216, pl. 16, fig. 32) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. This species is a synonym of *Lampsilis* (*L.*) *radiata* (Gmelin, 1791) (Burch, 1975: 160).

Unio burtoni Woodward, 1859: 349, pl. 47, fig. 1.
Paralectotype: AMNH **56105** (1 specimen).
Locality: Lake Tanganyika, Kenya, Africa.
Collector: Captain Speke.
Remarks: This specimen bears an original (unknown) collection number 11955. Johnson (1971: 80) stated that the figured specimen (BM(NH) 1859.12.23.9) was the holotype. Since Woodward did not designate a holotype, Johnson's action constituted a lectotype designation. An additional paralectotype is BM(NH) 1965220 (Johnson, 1971: 80). This species is placed in *Coelatura* Conrad, 1853, and is the type of the subgenus *Grandidieria* Bourguignat, 1885, by original designation (Bourguignat, 1885: 6).

Unio callosus Lea, 1841: 31.
Holotype: AMNH **30561**.
Locality: Ohio Canal, 12 mi below Columbus, Franklin Co., Ohio, North America.
Collector: Unknown.
Remarks: ex Jay Collection 1524. AMNH 30561 is the holotype by monotypy and was figured by Lea (1842: 239–240, pl. 23, fig. 54). Johnson (1974: 26) stated that this specimen was lost, but it was located at AMNH in 1994 and is fig. 8 herein. This species is a possible senior synonym of *Nephronaias* (*Sphenonaias*) *mexicana* (Philippi, 1847) (Haas, 1969: 206).

Unio cucumoides Lea, 1840: 285.
Holotype: AMNH **30897**.
Locality: Hunter's River, New South Wales, Australia.
Collector: Unknown.
Remarks: ex Jay Collection 1608. AMNH 30897 is the holotype by monotypy and was figured by Lea (1842: 192–193, pl. 7, fig. 2) and is fig. 9 herein. This species is a synonym of *Cucumerunio novaehollandiae* (Gray, 1834) (Smith, 1992: 17).

Unio eximius Lea, 1856: 93.
Paralectotypes: AMNH **30785** (4 specimens, 1 valve).
Locality: Siam [Thailand], Asia.
Collector: S. R. House.
Remarks: ex Haines Collection 1642. Johnson (1974: 54) stated that the specimen (USNM 83900) figured by Lea (1858: 294–295, pl. 25, fig. 8) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. Additional paralectotypes are

USNM 83900a and FMNH 77358. This species is placed in *Physunio* Simpson, 1900, sensu stricto (Haas, 1969: 89).

Unio gravidus Lea, 1856: 93.
Paralectotypes: AMNH **30772** (9 specimens, 1 valve), **31281** (2 specimens, 1 valve).
Locality: Siam [Thailand], Asia.
Collector: S. R. House.
Remarks: ex Haines Collection 1672. Johnson (1974: 67) stated that the specimen (USNM 83935) figured by Lea (1858: 292–293, pl. 24, fig. 5) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. Additional paralectotypes are USNM 83935a, MCZ 221746, and ANSP 41748 (Johnson and Baker, 1973: 157). This species is the type of the genus *Physunio* Simpson, 1900, by original designation (Simpson, 1900: 830), but is a junior synonym of *P.* (*P.*) *superbus* (Lea, 1843) (Haas. 1969: 90).

Unio hainesianus Lea, 1856: 92.
Lectotype: AMNH **31070**.
Locality: Siam [Thailand], Asia.
Collector: S. R. House.
Remarks: ex Haines Collection. Lea (1858: 289–290, pl. 21, fig. 1) stated "there are two specimens only of this fine species among the shells from Mr. Haines." This contradicts Simpson's (1900: 582) claim that "the type consists of a single valve of a young individual." AMNH 31070 is the figured specimen that Johnson (1974: 67) stated could not be found in USNM or AMNH; it was located at AMNH in 1994. It is here designated lectotype and is fig. 10 herein. USNM 83933, cited as a syntype by Johnson (1974: 67), is therefore the paralectotype. This species is the type of the genus *Chamberlainia* Simpson, 1900, by original designation as *C. hainesiana* (Simpson, 1900: 582).

Unio housei Lea, 1856: 92.
Paralectotypes: AMNH **29223** (3 specimens), **31039** (5 specimens).
Locality: Siam [Thailand], Asia.
Collector: S. R. House.
Remarks: ex Haines Collection 1684. Johnson (1974: 71) stated that the specimen (USNM 83951) figured by Lea (1858: 291, pl. 23, fig. 3) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. An additional paralectotype is MCZ 221846. This species is a synonym of *Hyriopsis* (*Limnoscapha*) *myersiana* (Lea, 1856) (Brandt, 1974: 275).

Unio humilis Lea, 1856: 93.
Paralectotypes: AMNH **30825** (1 specimen, 4 valves).
Locality: Siam [Thailand], Asia.
Collector: S. R. House.
Remarks: ex Haines Collection 1891. Johnson (1974: 72) stated that the specimen (USNM 84153) figured by Lea (1858: 296–297, pl. 26, fig. 10) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. Additional paralectotypes are USNM 84153a. This species is placed in *Indonaia* Prashad, 1918 (Brandt, 1974: 286).

Unio inornatus Lea, 1856: 93.
Paralectotypes: AMNH **30813** (6 specimens), **30837** (2 specimens).
Locality: Siam [Thailand], Asia.
Collector: S. R. House.
Remarks: ex Haines Collection 1688. Johnson (1974: 74) stated that the specimen (USNM 85196) figured by Lea (1858: 293–294, pl. 24, fig. 6) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. This species is a synonym of *Uniandra contradens tumidula* (Lea, 1856) (Brandt, 1974: 290).

Unio jayensis Lea, 1838: 28–29, pl. 9, fig. 23.
Paralectotype: AMNH **30563** (1 valve).
Locality: Florida, United States, North America.
Collector: Unknown.
Remarks: ex Jay Collection 1693. Johnson (1974: 77) stated that the valve figured by Lea (USNM 86031) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. USNM 86031a (1 specimen) cannot be a paralectotype since Lea (1838) stated that he had only "single opposed valves of two individuals of nearly the same size." This species is placed in *Elliptio* Raf-

inesque, 1820, sensu stricto (Haas, 1969: 220–221).

Unio lutens Lea, 1856: 93.
Holotype: AMNH **29109**.
Locality: Newville, Burma [Myanmar], Asia.
Collector: Mrs. Vinton.
Remarks: ex Haines Collection 1727. AMNH 29109 is the holotype by monotypy and was figured by Lea (1858: 291–292, pl. 24, fig. 4). Lea (1858: 291) corrected this specific name to *U. luteus,* as he considered the original spelling to be incorrect. This is an unjustified emendation because there is no evidence in the original publication that *U. lutens* was a typographical error. Johnson (1974: 87) stated that this specimen was lost, but it was located at AMNH in 1994 and is fig. 11 herein. This species is a synonym of *Parreysia corrugata* (Müller, 1774) (Haas, 1969: 118).

Unio lutulentus Gould, 1850: 295.
Paralectotypes: AMNH **30917** (3 specimens).
Locality: New Zealand.
Collector: United States Exploring Expedition, 1838–1842.
Remarks: ex Crooke Collection 17490. These specimens are types (W. J. Clench, on specimen label). The species was figured by Gould (1852: 428, pl. 37, figs. 542, 542a–c). The lectotype is USNM 5927 (McMichael, 1958: 428) and additional paralectotypes are USNM 17399 and MCZ 88092, 155765 (McMichael and Hiscock, 1958: 462). This species is a synonym of *Hyridella* (*Echyridella*) *menziesi* (Gray, 1843) (McMichael and Hiscock, 1958: 460).

Unio myersianus Lea, 1856: 92.
Paralectotypes: AMNH **29224** (2 specimens), **31007** (1 specimen), **31038** (6 specimens).
Locality: Siam [Thailand], Asia.
Collector: S. R. House.
Remarks: ex Haines Collection 1745. Johnson (1974: 95) stated that the specimen (USNM 83950) figured by Lea (1858: 290, pl. 22, fig. 2) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. This species is placed in *Hyriopsis* Conrad, 1853, as *H.* (*Limnoscapha*) *myersiana* (Brandt, 1974: 275).

Unio novi-eboraci Lea, 1838: 104–105, pl. 24, fig. 114.
Paralectotypes: AMNH **29006** (2 specimens, 1 valve).
Locality: Oak Orchard Creek, Orleans Co., New York, United States, North America.
Collector: Unknown.
Remarks: ex Jay Collection 1762. Johnson (1974: 100) stated that the figured specimen (USNM 86042) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. This species is a synonym of *Villosa iris* (Lea, 1829) (Oesch, 1984: 201).

Unio nucleus Lea, 1856: 94.
Paralectotype: AMNH **30840** (1 specimen).
Locality: Siam [Thailand], Asia.
Collector: S. R. House.
Remarks: ex Haines Collection 1762. Johnson (1974: 100) stated that the specimen (USNM 533741) figured by Lea (1858: 306–307, pl. 28, fig. 21) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. This species is placed in *Scabies* Haas, 1911 (Haas, 1911: 105).

Unio occatus Lea, 1860: 307–308.
Paralectotype: AMNH **31251** (1 specimen).
Locality: Bengal, India, Asia.
Collector: Unknown.
Remarks: ex Crooke Collection 17510. AMNH 31251 is a type (W. J. Clench, on specimen label). Johnson (1974: 103) stated that the specimen (USNM 84077) figured by Lea (1863: 398, pl. 50, fig. 304) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. An additional paralectotype is USNM 84077a. This species is placed in *Indonaia* Prashad, 1918, as *I. occata* (Haas, 1969: 114).

Unio phaselus Lea, 1856: 94.
Paralectotypes: AMNH **30827** (4 specimens, 1 valve).
Locality: Siam [Thailand], Asia.
Collector: S. R. House.
Remarks: ex Haines Collection 1807. Johnson (1974: 112) stated that the specimen (USNM 84143) figured by Lea (1858: 297–298, pl. 26, fig. 11) was the holotype. Since Lea did not designate a holotype, John-

son's action constituted a lectotype designation. This species is placed in *Scabies* Haas, 1911 (Brandt, 1974: 283).

Unio rusticus Lea, 1856: 93.
Paralectotypes: AMNH **30810** (12 specimens).
Locality: Siam [Thailand], Asia.
Collector: S. R. House.
Remarks: ex Haines Collection 1864. Johnson (1974: 127) stated that the specimen (USNM 84082) figured by Lea (1858: 294, pl. 25, fig. 7) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. Additional paralectotypes are ANSP 41681 (1 specimen) (Johnson and Baker, 1973: 169), MCZ 221747 (1 valve), and USNM 84082a (2 specimens); a total of 15 ½ paralectotypes. Lea's (1858) statement that "about a dozen of this species" were examined by him is vague enough to permit the recognition of this number of specimens in the type series. This taxon is a subspecies of *Uniandra contradens* (Lea, 1838) as *U. c. rustica* (Brandt, 1974: 291).

Unio sagittarius Lea, 1856: 93.
Paralectotype: AMNH **30809** (1 specimen).
Locality: Siam [Thailand], Asia.
Collector: S. R. House.
Remarks: ex Haines Collection. Johnson (1974: 127) stated that the specimen (USNM 85934) figured by Lea (1858: 298, pl. 26, fig. 12) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. An additional paralectotype is USNM 85934a. This species is a synonym of *Ensidens ingallsianus* (Lea, 1852) (Brandt, 1974: 288).

Unio scobinatus Lea, 1856: 93.
Paralectotypes: AMNH **30832** (14 specimens, 1 valve).
Locality: Siam [Thailand], Asia.
Collector: S. R. House.
Remarks: ex Haines Collection 1867. Johnson (1974: 130) stated that the specimen (USNM 84145) figured by Lea (1858: 299–300, pl. 26, fig. 13) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. Additional paralectotypes are MCZ 175555 (Johnson, 1956: 134), 297361, and USNM 84145a, 84146. This species is the type of the genus *Scabies* Haas, 1911 (Haas, 1911: 105) by subsequent designation as *S. scobinata* (Haas, 1969: 63), but is a junior synonym of *S. crispata* (Gould, 1843) (Brandt, 1974: 281).

Unio shuttleworthii Lea, 1856: 94.
Paralectotype: AMNH **30905** (1 specimen).
Locality: Australia.
Collector: R. J. Shuttleworth.
Remarks: ex Haines Collection 1870. McMichael and Hiscock (1958: 415) stated that the holotype is USNM 84416, figured by Lea (1858: 304–305, pl. 28, fig. 19). Since Lea did not designate a holotype, McMichael and Hiscock's action constituted a lectotype designation. *Alathyria p. pertexta* Iredale, 1934, is the replacement name for *U. shuttleworthii* Lea, 1856 (non Kuster, 1855) (Smith, 1992: 16).

Unio sloatianus Lea, 1840: 287.
Holotype: AMNH **56104**.
Locality: Chattahoochee River, Georgia, United States, North America.
Collector: L. W. Sloat.
Remarks: ex Jay Collection 1872. AMNH 56104 is the holotype by monotypy and was figured by Lea (1842: 271, pl. 16, fig. 33) and is fig. 12 herein. This species is the type of the genus *Elliptoideus* Frierson, 1927, by monotypy (Frierson, 1927: 33).

Unio superbus Lea, 1843: 1.
Paralectotype: AMNH **30776** (1 specimen).
Locality: New Holland [Australia].
Collector: Unknown.
Remarks: ex Jay Collection 1895. This species was described in a printed sheet dated Aug. 19, 1843 (Scudder, 1885: 42). AMNH 30776 is a type (W. J. Clench, on specimen label). Johnson (1974: 142) stated that the specimen (USNM 83934) figured by Lea (1846: 281, pl. 42, fig. 11) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. This species is the type of the genus *Physunio* Simpson, 1900 (Simpson, 1900: 830), as the senior synonym of *U. gravidus* Lea, 1856 (Haas, 1969: 89–90).

Unio tumidulus Lea, 1856: 93.
Paralectotype: AMNH **30815** (1 valve).
Locality: Siam [Thailand], Asia.
Collector: S. R. House.

Remarks: ex Haines Collection 1912. Johnson (1974: 149) stated that the specimen (USNM 84612) figured by Lea (1858: 295–296, pl. 25, fig. 9) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. This taxon is a subspecies of *Uniandra contradens* (Lea, 1838) as *U. c. tumidula* (Brandt, 1974: 290).

Unio verreauianus Lea, 1856: 94.
Paralectotypes: AMNH **30819** (4 specimens).
Locality: Cape of Good Hope, South Africa, Africa.
Collector: E. Verreau.
Remarks: ex Haines Collection 1918. Johnson (1974: 153) stated that the specimen (USNM 84418) figured by Lea (1858: 301–302, pl. 27, fig. 16) was the holotype. Since Lea did not designate a holotype, Johnson's action constituted a lectotype designation. Additional paralectotypes are USNM 84418a and MCZ 240231 (ex AMNH). This species is a synonym of *Cafferia caffra* (Krauss, 1848) (Haas, 1969: 155).

Venerupis peruviana Jay, 1839: 113, pl. 1, figs. 14, 15.
Syntypes: AMNH **56118** (3 specimens).
Locality: Coast of Peru, Pacific Ocean.
Collector: Unknown.
Remarks: ex Jay Collection 486. Richards and Old (1969) stated that "one . . . is marked 'fig'd type' and is therefore taken to be the holotype." This was a flawed rationale, as no specimen can be a holotype unless so stated in the original publication, and the action of Richards and Old (1969) should not be considered a lectotype designation. In fact, no single specimen matches Jay's figures well enough to be definitely called the figured specimen. This species is a synonym of *Petricola* (*Rupellaria*) *denticulata* Sowerby, 1834 (Keen, 1971: 199).

Volsella (*Volsella*) *salvadorica* Hertlein and Strong, 1946: 73, pl. 1, figs. 7, 11.
Paratype: AMNH **160345** (1 valve).
Locality: Station 199-D-6, 13°02′30″N, 87°29′30″W, 4 fathoms, off Monypenny Point, Gulf of Fonseca, Nicaragua, Pacific Ocean.
Collector: Eastern Pacific "Zaca" Expedition, Dec. 24, 1937.
Remarks: ex NYZS. The holotype is CASIZ 064332 (Hertlein and Strong, 1946: 73). This species is placed in *Lioberus* Dall, 1898, as *L. salvadoricus* (Bernard, 1983: 19).

Type bivalve specimens that should be in the AMNH Collection but were not present or cataloged as of June 1995 (see Introduction for details).

Anodonta senegalensis Lea, 1859: 154 (paralectotype).

Cardium setosum Redfield, 1848: 168, pl. 11, figs. 1a–c (syntype–AMNH 29954?; specimen needs to be seen for verification of status).

Chlamys (*Chlamys*) *incantata* Hertlein, 1972: 2–4, figs. 1–5 (paratype).

Corbicula erosa Prime, 1861a: 126 (paralectotype).

Corbicula gracilis Prime, 1862b: 389–390, pl. 14, fig. 7 (paralectotype).

Corbicula lydigiana Prime, 1861b: 355–356 (paralectotype).

Corbicula notata Prime, 1861a: 127 (paralectotype).

Corbicula violacea Prime, 1861a: 128 (paralectotype).

Cyrena fortis Prime, 1861b: 355 (paralectotype).

Glauconome sumatrensis Prime, 1862b: 384, pl. 14, fig. 5 (paralectotype).

Glycymeris gordoni Usticke, 1959: 2–3, pl. 1, fig. 1 (holotype).

Mactra gigas Usticke, 1969: 7 (syntype).

Pecten yessoensis Jay, 1856: 293–294, pl. 3, figs. 3, 4; pl. 4, figs. 1, 2 (syntype).

Phacoides cancellata Usticke, 1969: 6, pl. 1, fig. 1578 (syntype).

Psammobia olivacea Jay, 1856: 292, pl. 1, figs. 8, 9 (syntype).

Unio evitatus Lea, 1866: 133 (paralectotype).

Unio rajahensis Lea, 1841: 30 (paralectotype).

Venus (*Gemma*) *manhattensis* Prime, 1862a: 482–483, text fig. (syntype).

CLASS SCAPHOPODA

Annulipulsellum euzkadii Scarabino, 1986b: 4–5, figs. 8–20.
Paratype: AMNH **202773** (1 specimen).
Locality: Cruise 25, Station 307, 3835–3862 m, 12°34.4′–12°40.8′N, 58°59.3–59°09.2′W, Atlantic Ocean.
Collector: R/V "Knorr," March 3, 1972.
Remarks: ex Scarabino. The holotype is MCZ 293952 and additional paratypes are MCZ 293953–293955 (also MCZ 293956, not cited in publication), MNHN-M 14770–14772 and MNHN-P (Scarabino, 1986b: 4).

Cadulus acus Dall, 1889: 432, pl. 27, fig. 11.
Paralectotypes: AMNH **148337** (2 specimens), **148342** (8 specimens).
Locality: 30 fathoms, Samana Bay, Santo Domingo, Atlantic Ocean.
Collector: Capt. Couthouy, 1850.
Remarks: ex USNM 95379 (now USNM 887454). Henderson (1920: 140) stated that USNM 95379 was the holotype. Since Dall did not designate a holotype, Henderson's action constituted a lectotype designation. Additional paralectotypes are USNM 95379 (Henderson, 1920: 140) (now USNM 887454) and MCZ 7751 (Turner, 1955: 317). MCZ 7751 is not the lectotype, despite being cited as the holotype by Turner (1955: 317). This species is placed in *Gadila* Gray, 1847 (Scarabino *in* Rios, 1994: 309).

Cadulus albicomatus Dall, 1890: 295, pl. 9, fig. 8.
Syntype: AMNH **146292** (1 specimen).
Locality: Station 2792, 00°37′S, 81°00′W, 401 fathoms, off Manta, Ecuador, Pacific Ocean.
Collector: "Albatross," March 2, 1888.
Remarks: ex USNM 602251. Additional syntypes are USNM 87539, 602251, and SBMNH 35018 (Scott et al., 1990: 18). This species is the type of the subgenus *Striocadulus* Emerson, 1962, by original designation (Emerson, 1962: 478).

Cadulus (*Platyschides*) *arctus* Henderson, 1920: 124, pl. 19, fig. 19.
Paratype: AMNH **148348** (1 specimen).
Locality: Station 2404, 28°44′N, 85°16′W, 60 fathoms, off Cape San Blas, Florida, United States, Atlantic Ocean.
Collector: "Albatross," March 15, 1885.
Remarks: ex USNM 151830. The holotype is USNM 323955 and additional paratypes are USNM 151830 (Henderson, 1920: 124).

Cadulus (*Gadila*) *atlanticus* Henderson, 1920: 137–139, pl. 20, fig. 2.
Paratypes: AMNH **148338** (2 specimens).
Locality: Station 2115, 35°49′30″N, 74°34′45″W, 843 fathoms, off Cape Hatteras, North Carolina, United States, Atlantic Ocean.
Collector: "Albatross," Nov. 11, 1883.
Remarks: ex USNM. The holotype is USNM 78238 and additional paratypes are in USNM (Henderson, 1920: 139) and MCZ 186815 (ex Station 2682).

Cadulus (*Gadila*) *californicus* Pilsbry and Sharp, 1898: 180–181, pl. 34, figs. 5–8.
Paralectotypes: AMNH **148391** (4 specimens).
Locality: Station 2923, 32°40′30″N, 117°31′30″W, 822 fathoms, off San Diego, California, United States, Pacific Ocean.
Collector: "Albatross," Jan. 19, 1889.
Remarks: ex USNM 107698a. The lectotype (USNM 107698) was designated by Shimek (1989: 235). Additional paralectotypes are USNM 107698a (Pilsbry and Sharp, 1898: 181), 203136, and SBMNH 35038 (Scott et al., 1990: 18). This species is placed in *Polyschides* Pilsbry and Sharp, 1898 (Turgeon et al., 1988: 51).

Cadulus (*Polyschides*) *dalli* Pilsbry and Sharp, 1898: 155–156, pl. 30, figs. 19–23.
Syntypes: AMNH **148395** (3 specimens).
Locality: Station 2783, 51°02′30″S, 74°08′30″W, 122 fathoms, West Coast of Patagonia, Chile, Pacific Ocean.
Collector: "Albatross," Feb. 6, 1888.
Remarks: ex USNM 122746 (now USNM 602253). Additional syntypes are USNM 122736, 122746 (not 123746 as cited in Pilsbry and Sharp, 1898: 156), 122746 (now USNM 602253), and SBMNH 35039 (Scott et al., 1990: 18).

Cadulus (*Gadila*) *fusiformis* Pilsbry and Sharp, 1898: 193–194, pl. 35, fig. 14.
Paratype: AMNH **148398** (1 specimen).

Locality: 4 fathoms, San Pedro, California, United States, Pacific Ocean.
Collector: J. G. Cooper.
Remarks: ex USNM 602247. The holotype is USNM 133809 (Pilsbry and Sharp, 1898: 194). Additional paratypes are USNM 7957 and 602247. This species is a synonym of *C. aberrans* Whiteaves, 1887 (Shimek, 1989: 235).

Cadulus (*Cadulus*) *halius* Henderson, 1920: 149, pl. 20, fig. 12.
Paratype: AMNH **148332** (1 specimen).
Locality: Station 115, 120 fathoms, off English Harbor, Antigua, Atlantic Ocean.
Collector: University of Iowa Expedition of 1918.
Remarks: ex USNM 314936. The holotype was in the State University of Iowa (now USNM 596599) and additional paratypes are USNM 314936 (Henderson, 1920: 149).

Cadulus (*Platyschides*) *macleani* Emerson, 1978: 122, figs. 1–3.
Paratype: AMNH **213440** (1 specimen).
Locality: Station 66-22, 24°55′N, 109°46′W, 18–55 m on sand and shell bottom, Muertos Bay, Baja California Sur, Mexico, Pacific Ocean.
Collector: McLean, Oringer and Marincovich, April 8, 1966.
Remarks: ex LACM 1887. The holotype is LACM 1886 and additional paratypes are LACM 1887 (Emerson, 1978: 122).

Cadulus (*Gadila*) *mayori* Henderson, 1920: 133–134, pl. 19, fig. 3.
Paratypes: AMNH **148339** (7 specimens).
Locality: Station 33, 16 fathoms, Tortugas, Florida, United States, Atlantic Ocean.
Collector: "Eolis," 1911.
Remarks: ex USNM 314784. The holotype is USNM 314783 and additional paratypes are USNM 157809, 314784–314816, 323953 (Henderson, 1920: 133–134), MCZ 48411 (Turner, 1955: 319), and ANSP 44914 from "Eolis" station 43 (ex USNM 314786). This species is placed in *Gadila* Gray, 1834 (Turgeon et al., 1988: 51).

Cadulus (*Platyschides*) *miamiensis* Henderson, 1920: 129–130, pl. 19, fig. 18.
Paratypes: AMNH **148351** (2 specimens).
Locality: Station 340, 209 fathoms, off Fowey Light, Florida, United States, Atlantic Ocean.
Collector: "Eolis," 1917.
Remarks: ex USNM 314772a. The holotype is USNM 314772 and additional paratypes are USNM 108176a, 314769–314781, 330522 (Henderson, 1920: 130), MCZ 48413 (Turner, 1955: 319), and ANSP 44912 from "Eolis" station 348 (ex USNM 314774). This species is placed in *Polyschides* Pilsbry and Sharp, 1898 (Turgeon et al., 1988: 51).

Cadulus (*Polyschides*) *nedallisoni* Emerson, 1978: 120–122, figs. 4–6.
Holotype: AMNH **160349**.
Paratypes: AMNH **183875** (39 specimens), **183875a** (1 specimen).
Locality: Station 200-D-19, 12°28′03″N, 87°12′39″W, 22–24 m, Corinto, Nicaragua, Pacific Ocean.
Collector: Eastern Pacific "Zaca" Expedition, Jan. 5, 1938.
Remarks: ex NYZS. Additional paratypes are LACM 2117 (Groves, personal commun.). The holotype was figs. 4, 5 and AMNH 183875a was fig. 6 (Emerson, 1978).

Cadulus (*Platyschides*) *nitidus* Henderson, 1920: 129, pl. 19, fig. 9.
Paratypes: AMNH **148353** (3 specimens).
Locality: Station 6062, 25–30 fathoms, Mayaguez Harbor, Puerto Rico, Atlantic Ocean.
Collector: "Fish Hawk," Jan. 20, 1899.
Remarks: ex USNM 161582. The holotype was USNM 161582a (now USNM 887474) and additional paratypes are USNM 161582 (Henderson, 1920: 129).

Cadulus (*Gadila*) *panamensis* Sharp and Pilsbry *in* Pilsbry and Sharp, 1898: 191–192, pl. 36, figs. 23–25.
Paralectotypes: AMNH **148402** (6 specimens).
Locality: Station 2805, 07°56′S, 79°41′30″W, 51.5 fathoms, Panama Bay, Panama, Pacific Ocean.
Collector: "Albatross," March 30, 1888.
Remarks: ex USNM 122795 (now USNM 602248). The lectotype (USNM 122795) was designated by Emerson (1971: 78), who considered *C. perpusillus* (Sowerby, 1832) the senior synonym. Additional paralectotypes were USNM 122795 (now USNM

602248) and SBMNH 35014 (Scott et al., 1990: 18).

Cadulus (*Cadulus*) *platensis* Henderson, 1920: 147–148, pl. 20, fig. 14.
Paratype: AMNH **148340** (1 specimen).
Locality: Station 2668, 30°58′30″N, 79°38′30″W, 294 fathoms, off Fernandina, Florida, United States, Atlantic Ocean.
Collector: "Albatross," May 5, 1886.
Remarks: ex USNM 108172. The holotype was USNM 330845a (now USNM 887476) and additional paratypes are USNM 95447, 108172, 108279, 330845 (Henderson, 1920: 147–148).

Cadulus (*Platyschides*) *providensis* Henderson, 1920: 122, pl. 18, fig. 14.
Paratype: AMNH **148352** (1 specimen).
Locality: Station 2668, 30°58′30″N, 79°38′30″W, 294 fathoms, off Fernandina, Florida, United States, Atlantic Ocean.
Collector: "Albatross," May 5, 1886.
Remarks: ex USNM 108176. The holotype is USNM 94055 and additional paratypes are USNM 94055a, 108176 (Henderson, 1920: 122).

Cadulus (*Gadila*) *regularis* Henderson, 1920: 137, pl. 19, fig. 14.
Paratypes: AMNH **148341** (21 specimens).
Locality: Station 2668, 30°58′30″N, 79°38′30″W, 294 fathoms, off Fernandina, Florida, United States, Atlantic Ocean.
Collector: "Albatross," May 5, 1886.
Remarks: ex USNM 108175. The holotype was USNM 330676a (now USNM 887475) and additional paratypes are USNM 108175, 108278, 330675 (Henderson, 1920: 137).

Cadulus (*Platyschides*) *simpsoni* Henderson, 1920: 127–128, pl. 19, fig. 17.
Paratype: AMNH **148357** (1 specimen).
Locality: Station 6062, 25–30 fathoms, Mayaguez, Puerto Rico, Atlantic Ocean.
Collector: "Fish Hawk," Jan. 20, 1899.
Remarks: ex USNM 161580a. The holotype is USNM 161580 and additional paratypes are USNM 161580a, 314677, 314932 (Henderson, 1920: 127).

Cadulus (*Gadila*) *striatus* Dall *in* Pilsbry and Sharp, 1898: 179–180, pl. 35, figs. 9–13.
Syntypes: AMNH **148405** (3 specimens).
Locality: Station 3354, 07°09′45″N, 80°50′W, 322 fathoms, Gulf of Panama, Panama, Pacific Ocean.
Collector: "Albatross," Feb. 23, 1891.
Remarks: ex USNM 122992 (now USNM 602252). Additional syntypes are USNM 122992 (Dall *in* Pilsbry and Sharp, 1898: 180) and were 122992 (now USNM 602252); also SBMNH 35023 (Scott et al., 1990: 18).

Cadulus (*Polyschides*) *tetrodon* Pilsbry and Sharp, 1898: 151–152, pl. 29, figs. 14–18.
Paralectotype: AMNH **148360** (1 specimen).
Locality: 5 mi off Cape Florida, 8 fathoms, Florida, United States, Atlantic Ocean.
Collector: W. H. Rush.
Remarks: ex USNM 84953. Henderson (1920: 101) stated that ANSP 71070 was the "type." Since Pilsbry and Sharp did not designate a holotype, Henderson's action constituted a lectotype designation. Additional paralectotypes are ANSP 71070 (Pilsbry and Sharp, 1898: 152) and USNM 84953 (Henderson, 1920: 101). This species is a synonym of *Polyschides tetraschistus* (Watson, 1879) (Scarabino *in* Rios, 1994: 310).

Cadulus (*Cadulus*) *transitorius transitorius* Henderson, 1920: 143–144, pl. 19, fig. 6.
Paratypes: AMNH **148334** (8 specimens).
Locality: Station 2668, 30°58′30″N, 79°38′30″W, 294 fathoms, off Fernandina, Florida, United States, Atlantic Ocean.
Collector: "Albatross," May 5, 1886.
Remarks: ex USNM 108170. The holotype is USNM 330589 and additional paratypes are USNM 108170, 314821–314823, 323779, 323813, and 330676 (not 330678 as cited in Henderson, 1920: 144).

Cadulus (*Gadila*) *verrilli* Henderson, 1920: 136–137, pl. 19, fig. 13.
Paratype: AMNH **148343** (1 specimen).
Locality: Station 871, 115 fathoms, off Martha's Vineyard, Massachusetts, United States, Atlantic Ocean.
Collector: "Fish Hawk," Sept. 4, 1880.
Remarks: ex USNM 38693. The holotype is USNM 38693 and additional paratypes are USNM 38693, 38694, 61144 (Henderson, 1920: 137), and MCZ 186819 (ex Station 871).

Costentalina vemae Scarabino, 1986b: 2–3, pl. 1, figs. 1–7.
Holotype: AMNH **202762**.
Paratype: AMNH **202763** (1 specimen).
Locality: V-17-81, 44°33′S, 44°19′W, 5332 m (AMNH 202762); V-17-85, 47°35′S, 43°21′W, 5495 m (AMNH 202763), Argentine Basin, Argentina, Atlantic Ocean.
Collector: R/V "Vema," May 27, 1961 (AMNH 202762) and June 6, 1961 (AMNH 202763).
Remarks: AMNH 202762 was the figured specimen (Scarabino, 1986b).

Dentalium (*Antalis*) *agile subagile* Henderson, 1920: 38–39, pl. 4, fig. 8.
Paratype: AMNH **148306** (1 specimen)
Locality: Station 2513, 43°34′N, 63°56′30″W, 134 fathoms, between Halifax and Le Have Banks, Nova Scotia, Canada, Atlantic Ocean.
Collector: "Albatross," July 11, 1885.
Remarks: ex USNM 50191. The holotype was USNM 50191a (now USNM 887470) and additional paratypes are USNM 50188, 50189, 50191–50193, 52302, 314325 (Henderson, 1920: 39), and ANSP 119158 from "Eolis" station 2513 (ex Henderson). This taxon is considered a full species (Abbott, 1974: 385).

Dentalium (*Antalis*) *bartletti* Henderson, 1920: 55–56, pl. 8, figs. 2, 7.
Paratypes: AMNH **148300**, **148301** (1 specimen each).
Locality: Station 230, 13°13′20″N, 61°18′45″W, 464 fathoms, off St. Vincent Island, Atlantic Ocean.
Collector: "Blake," Feb. 20, 1879.
Remarks: ex USNM 95371. The holotype is USNM 224986 and additional paratypes are USNM 93121, 93840, 94081, 95368 (not 94368), 95369–95371, 314449, 314450, 323776, 330524 (Henderson, 1920: 55–56).

Dentalium (*Antalis*) *ceratum flavum* Henderson, 1920: 51–52, pl. 7, fig. 1.
Paratype: AMNH **148298** (1 specimen).
Locality: Station 325, 95 fathoms, off Sand Key, Florida, United States, Atlantic Ocean.
Collector: "Eolis," 1917.
Remarks: ex USNM 314400. The holotype is USNM 314391 and additional paratypes are USNM 314391a–314405, 323016 (Henderson, 1920: 52) and ANSP 132113 from "Eolis" station 333 (ex Henderson). This subspecies is a synonym of *D.* (*A.*) *ceratum* Dall, 1881 (Abbott, 1974: 385).

Dentalium (*Episiphon*) *johnsoni* Emerson, 1952: 5–6, pl. 1, fig. 2.
Paratypes: AMNH **148289** (2 specimens).
Locality: Station 25, 18°32′15″N, 66°22′10″W, 240–300 fathoms, off Puerto Rico, Atlantic Ocean.
Collector: First Johnson-Smithsonian Expedition, Feb. 7, 1933.
Remarks: ex USNM 429714. The holotype is USNM 603543 and additional paratypes are USNM 429714 (Emerson, 1952: 5). This species is a synonym of *Episiphon didymum* (Watson, 1879) (Scarabino *in* Rios, 1994: 308).

Dentalium (*Dentalium*) *rebeccaense* Henderson, 1920: 31–32, pl. 3, fig. 2.
Paratype: AMNH **148314** (1 specimen).
Locality: Station 33, 16 fathoms, between Tortugas and Rebecca Shoals, Florida, United States, Atlantic Ocean.
Collector: "Eolis," 1911.
Remarks: ex USNM 314293a. The holotype is USNM 314293 and additional paratypes are USNM 314293a, 314294 (Henderson, 1920: 32). This species is a synonym of *Dentalium americanum* Chenu, 1843 (Scarabino *in* Rios, 1994: 305).

Dentalium solidum Verrill, 1884: 215–216.
Paralectotypes: AMNH **148370** (3 specimens).
Locality: Station 2084, 40°15′50″N, 67°05′15″W, 1290 fathoms, off Georges Bank, New England, United States, Atlantic Ocean.
Collector: "Albatross," Sept. 5, 1883.
Remarks: ex USNM 34911. The lectotype (USNM 34687) was selected and figured by Henderson (1920: 62–63, pl. 9, fig. 3). Additional paralectotypes are USNM 34687a, 34688, 34904, 34911, 35635, 35636, 35645 (Verrill, 1884: 216). None of the other specimens cited by Henderson (1920: 63) under *D.* (*Fissidentalium*) *meridionale verrilli* (new name for *D. solidum* Verrill, 1884, not *D. solidum* Hutton, 1873) are from Verrill's original type series. This species is a synonym of *Fissidentalium*

candidum (Jeffreys, 1877) (Scarabino *in* Rios, 1994: 307).

Dentalium (*Episiphon*) *sowerbyi pelliceri* Henderson, 1920: 80–81, pl. 13, figs. 7–9.
Paratypes: AMNH **148322** (35 specimens), **148323** (6 specimens).
Locality: Station 203, 3–12 fathoms, Cabanas Harbor (AMNH 148322) and Station 208, 1–12 fathoms, Bahia Honda (AMNH 148323), Cuba, Atlantic Ocean.
Collector: "Barrera".
Remarks: ex USNM 314565a (AMNH 148323) and USNM 314567 (AMNH 148322). The holotype is USNM 314565 and additional paratypes are USNM 314565a–14573 (Henderson, 1920: 81) and ANSP 119157 from "Eolis" station 203 (ex Henderson). This subspecies is a synonym of *Episiphon sowerbyi* (Guilding, 1834) (Scarabino *in* Rios, 1994: 308).

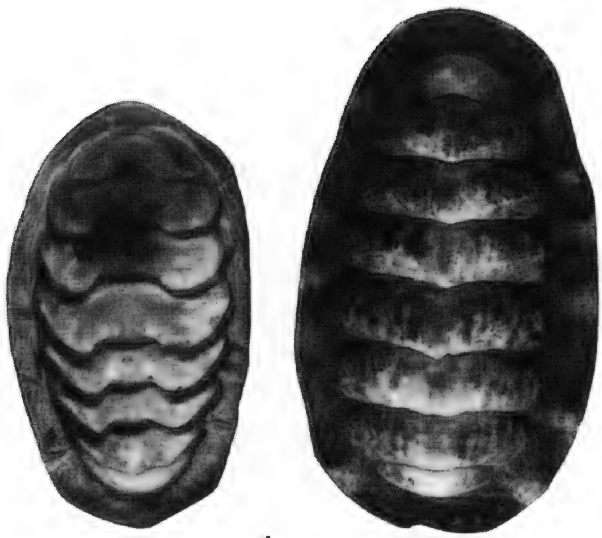
Pulsellum salishorum E. Marshall, 1980: 149–152, figs. 1–6.
Paratypes: AMNH **198610** (6 specimens).
Locality: 27 m, sticky mud, East Sound, Orcas Island, San Juan Islands, Washington, United States, Pacific Ocean.
Collector: E. Marshall, Aug. 16, 1977.
Remarks: ex E. Marshall. The holotype is USNM 782263 and additional paratypes are USNM 782264, LACM 1929, ANSP 352474, National Museum of Canada 86068 and Washington State Museum 35663 (E. Marshall, 1980: 150).

Siphonodentalium isaotakii Habe, 1953: 297, 299.
Paratypes: AMNH **148421** (6 specimens).
Locality: Tokyo Bay, Honshu, Japan, Pacific Ocean.
Collector: Unknown.
Remarks: ex Habe. The holotype is NSMT 54817 and an additional paratype is NSMT 54818 (Inaba and Oyama, 1977: 52). The species was figured by Habe (1963: text fig. 52).

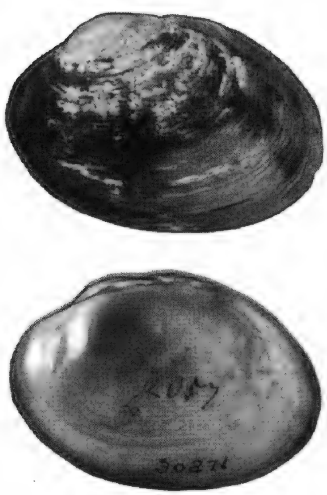
Siphonodentalium japonicum Habe, 1960: 294.
Paratypes: AMNH **148416** (3 specimens).
Locality: Tomioka, Amakusa, Kumamoto Prefecture, Japan, Pacific Ocean.
Collector: Unknown.
Remarks: ex Habe. The holotype is NSMT 54819 and an additional paratype is NSMT 54820 (Inaba and Oyama, 1977: 56). The species was figured by Habe (1963: text figs. 35, 36).

Siphonodentalium okudai Habe, 1953: 297, 299, figs. 745, 759, 760.
Paratype: AMNH **148420** (1 specimen).
Locality: Akkeshi Bay, Hokkaido, Japan, Pacific Ocean.
Collector: Unknown.
Remarks: ex Habe. The holotype is NSMT 54867 and an additional paratype is NSMT 54868 (Inaba and Oyama, 1977: 90).

Wemersoniella duartei Scarabino, 1986a: 5–6, 8, 12–19, figs. 6–11, 17–21.
Holotype: AMNH **202770**.
Paratypes: AMNH **202771** (approx. 20 specimens), **202772** (approx. 30 specimens).
Locality: V-17-80, 43°58′S, 52°09′W, 5781 m (AMNH 202770, 202771); V-17-81, 44°33′S, 49°19′W, 5332 m (AMNH 202772), "Cuenca Argentina," Atlantic Ocean.
Collector: R/V "Vema," May 26, 1961 (AMNH 202770, 202771) and May 27, 1961 (AMNH 202772).
Remarks: AMNH 202770 was figs. 6–8 (Scarabino, 1986a). Some paratypes are fragmented. Additional paratypes were cited as MCZ 293962, MNHN-M 14760, 14761, and MNHN-P (Scarabino, 1986a: 5), although in the case of the MCZ lot only a placeholder ("7 lots to come") is present in the MCZ collection.



1



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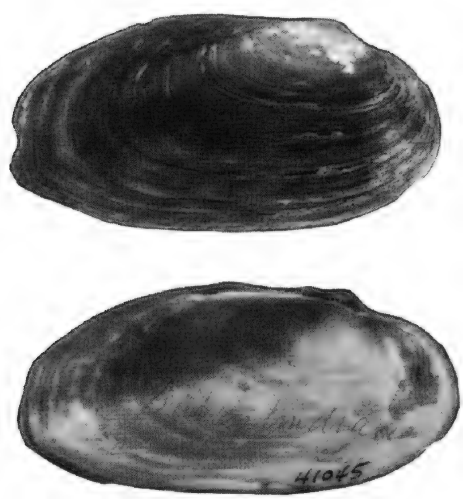


3

Figs. 1–3. **1.** *Plaxiphora excurvata* Pilsbry, 1893 (syntypes—AMNH 21933). **2.** *Anodonta montezuma* Lea, 1841 (holotype—AMNH 30871). **3.** *Anodonta subcylindracea* Lea, 1838 (syntype—AMNH 31131a). All figures ×1.

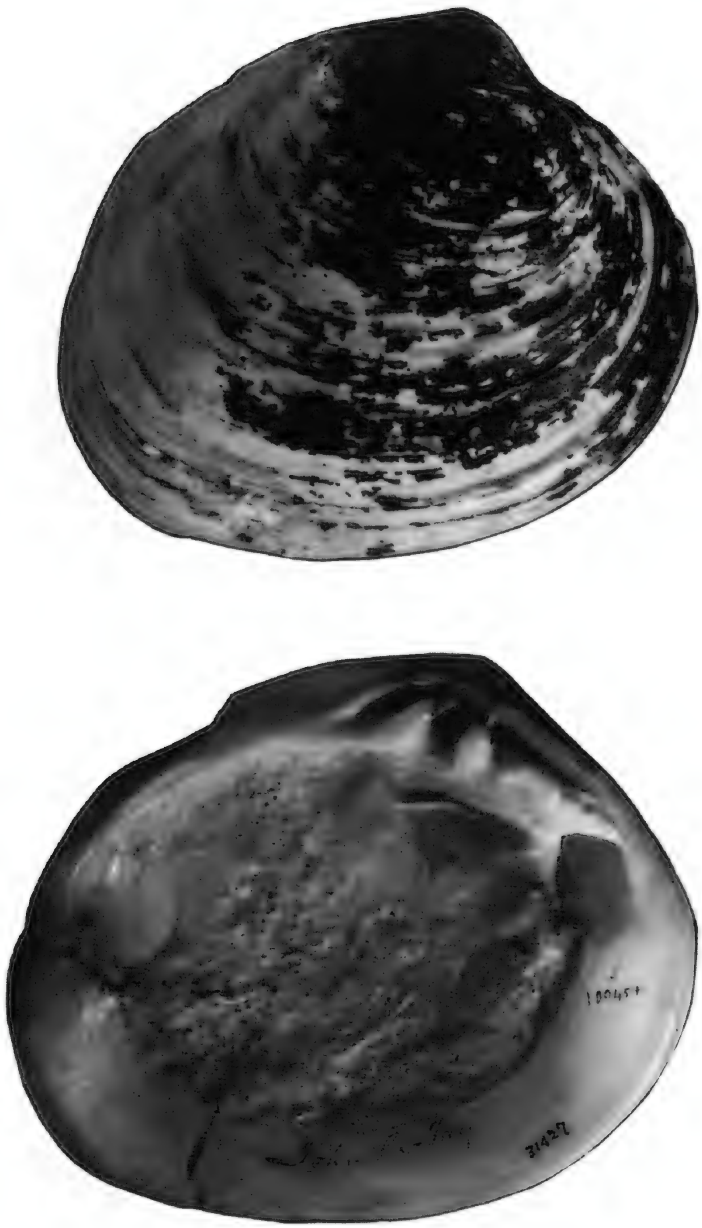
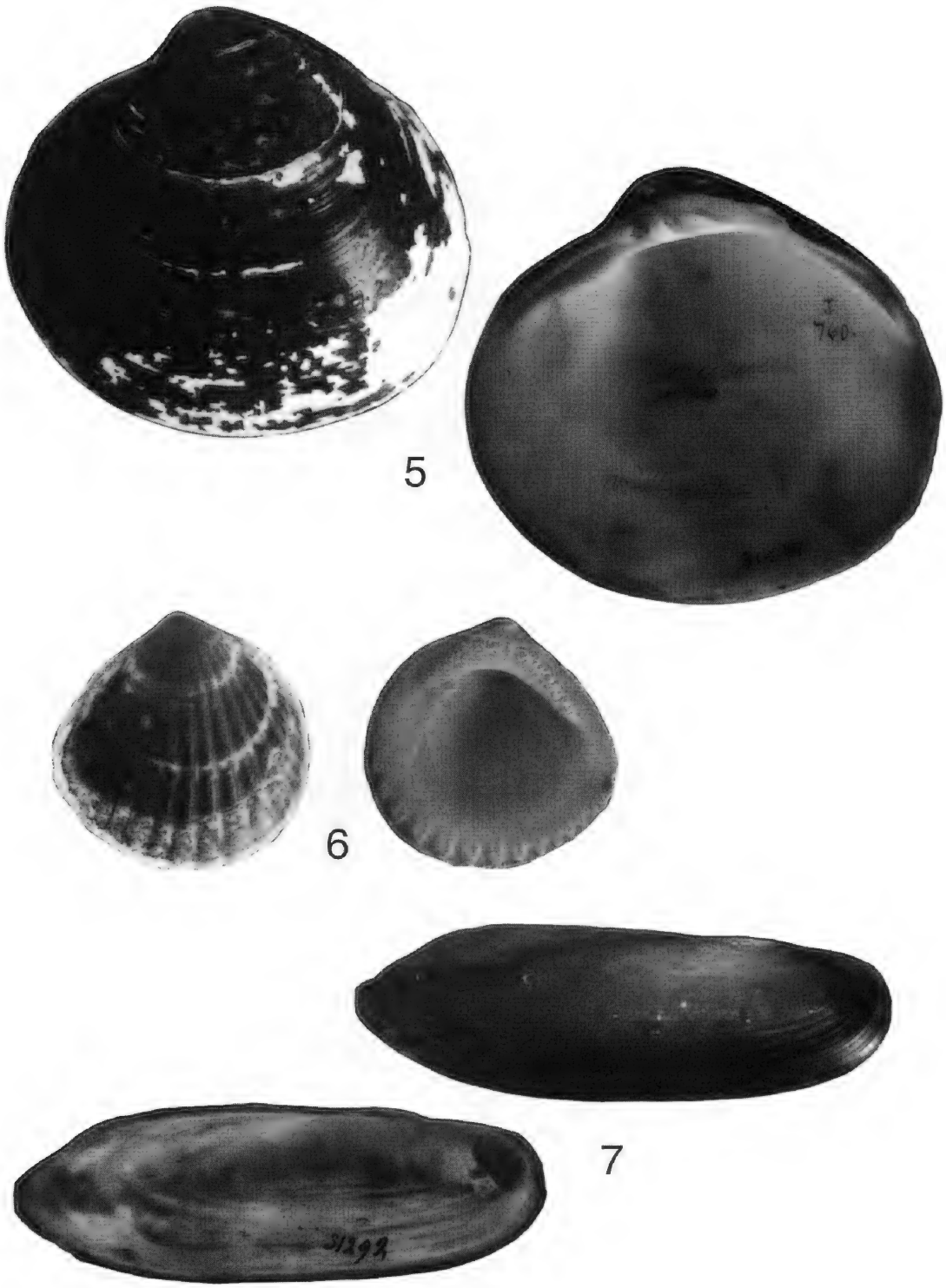
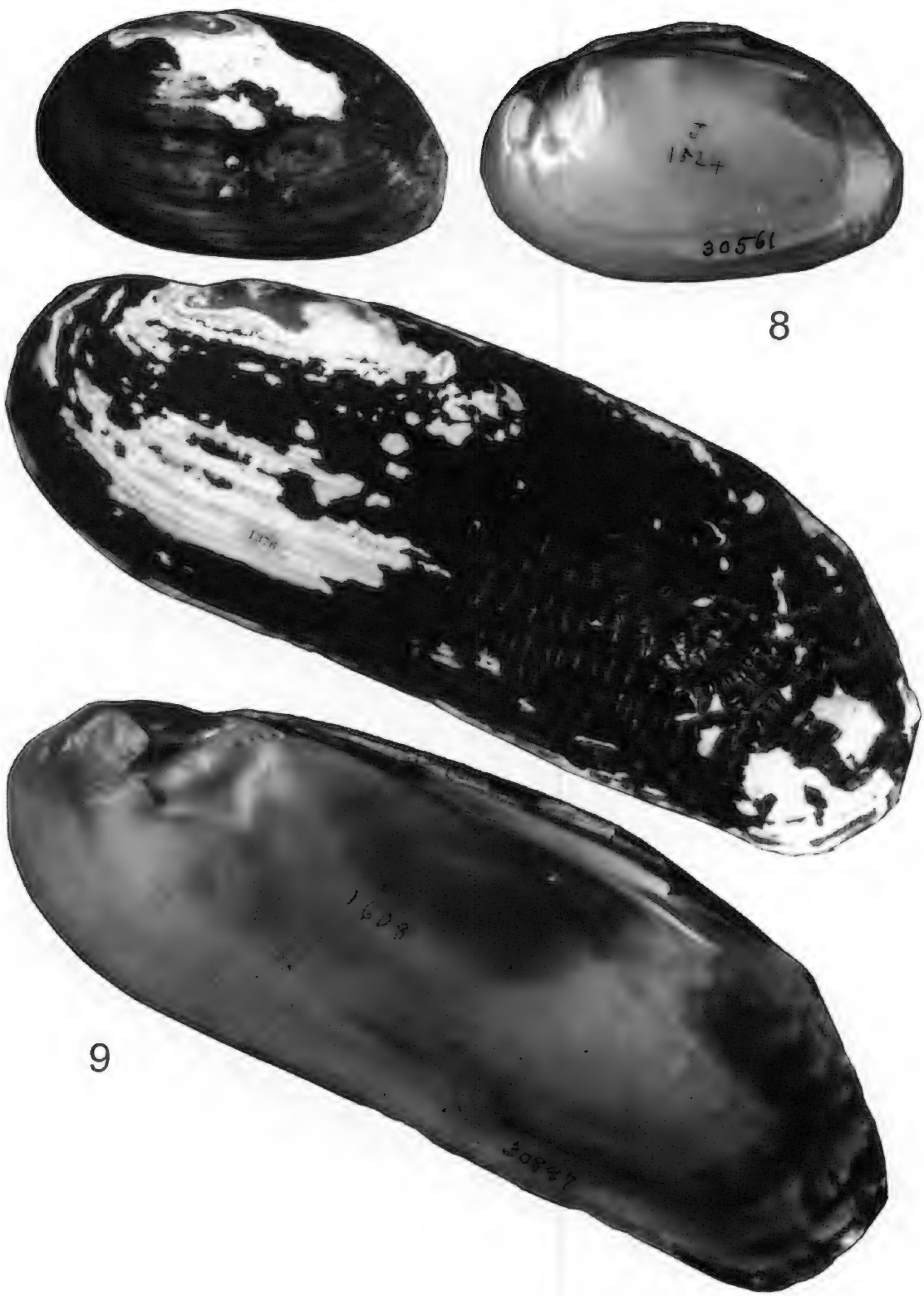


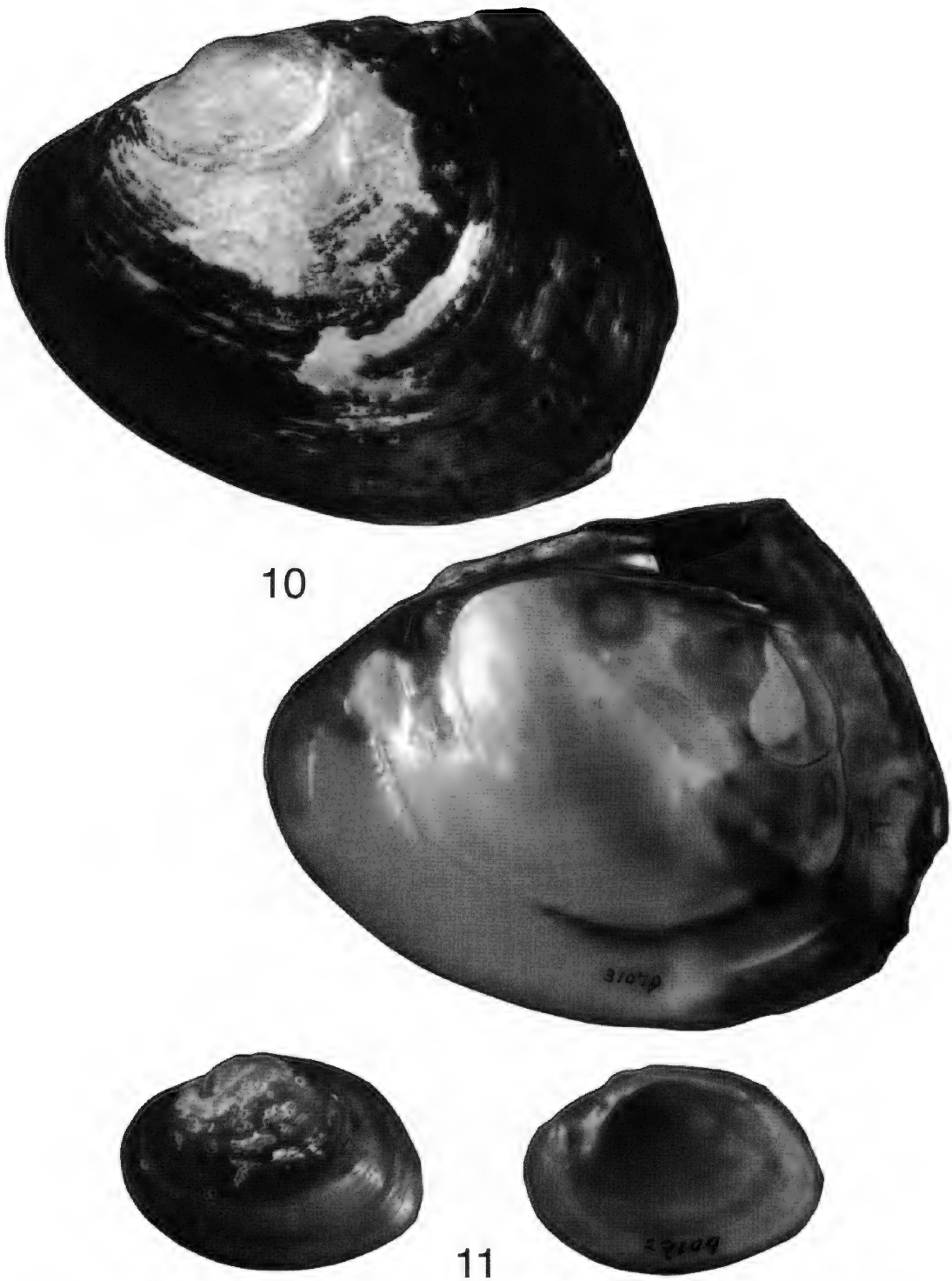
Fig. 4. *Batissa gigantea* Prime, 1860 (holotype—AMNH 31427) ×½.



Figs. 5–7. **5.** *Cyrena jayensis* Lea, 1834 (syntype—AMNH 31337) ×1. **6.** *Glycymeris gordoni tobagoensis* Usticke, 1959 (syntype—AMNH 271074) ×1½. **7.** *Iridina coelestis* Lea, 1838 (paralectotype—AMNH 31292) ×1.



Figs. 8, 9. **8.** *Unio callosus* Lea, 1841 (holotype—AMNH 30561) ×1. **9.** *Unio cucumoides* Lea, 1840 (holotype—AMNH 30897) ×¾.



Figs. 10, 11. **10.** *Unio hainesianus* Lea, 1856 (lectotype, herein—AMNH 31070) ×½. **11.** *Unio lutens* Lea, 1856 (holotype—AMNH 29109) ×1.

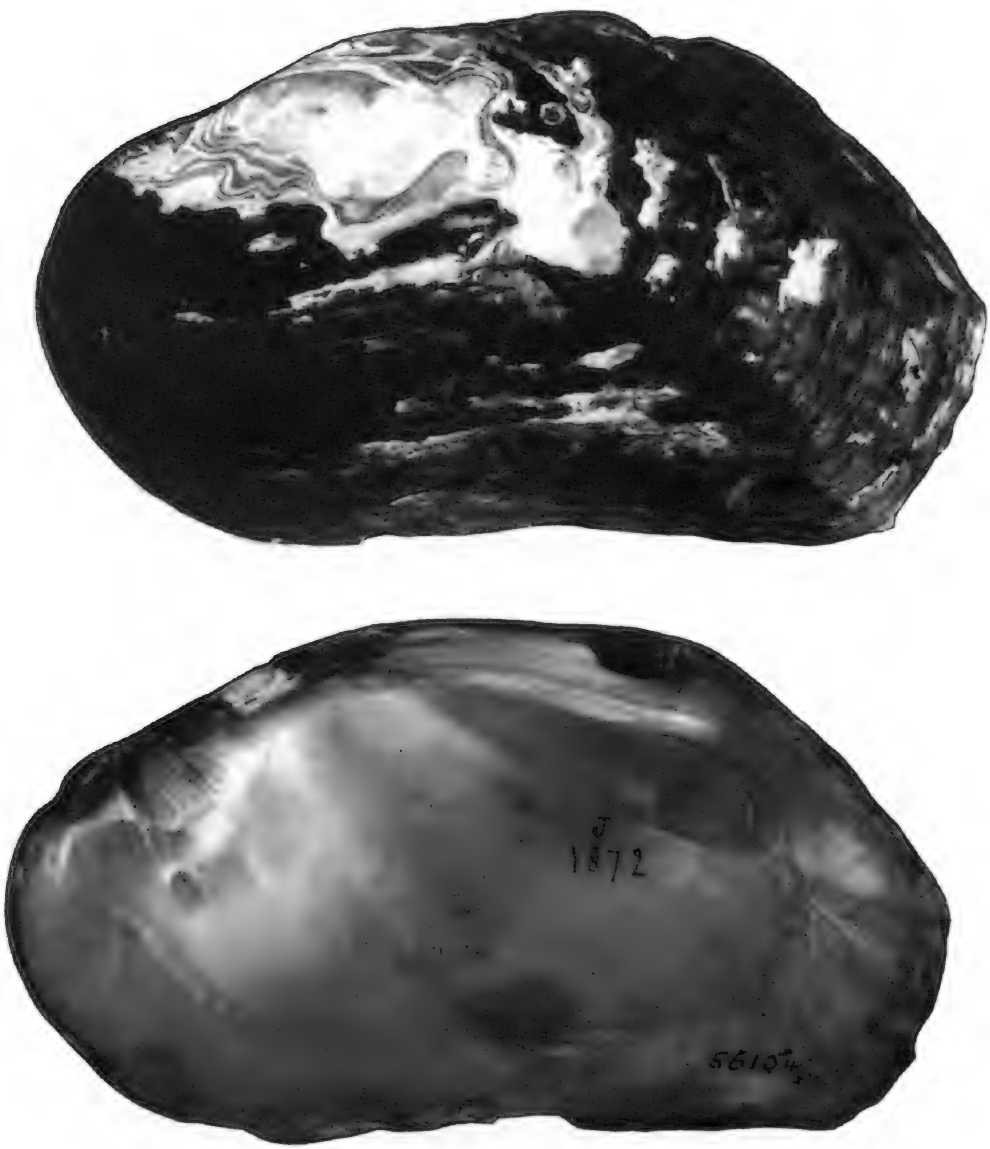


Fig. 12. *Unio sloatianus* Lea, 1840 (holotype—AMNH 56104) ×1.

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